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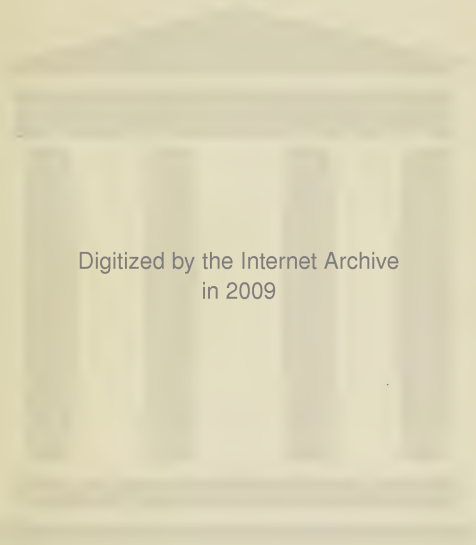

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From an etching by Wögel

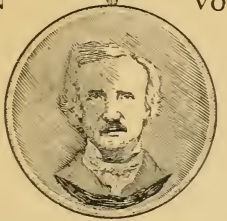
III

HANS PFAALL

THE CAMEO EDITION

THE WORKS OF EDGAR ALLAN POE

IN TEN VOLUMES



with an introduction by
EDWIN MARKHAM

VOLUME THREE

TALES—MARVELOUS ADVENTURE

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VOLUME III

TALES—MARVELOUS ADVENTURE

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THE UNPARALLELED ADVENTURE OF ONE HANS PFAALL

[Published in the *Southern Literary Messenger*, June, 1835.]

> With a heart of furious fancies,
> Whereof I am commander,
> With a burning spear *and a horse of air*,
> To the wilderness I wander.
> —*Tom o'Bedlam's Song.*

By late accounts from Rotterdam, that city seems to be in a high state of philosophical excitement. Indeed, phenomena have there occurred of a nature so completely unexpected—so entirely novel—so utterly at variance with preconceived opinions—as to leave no doubt on my mind that long ere this all Europe is in an uproar, all physics in a ferment, all reason and astronomy together by the ears.

It appears that on the —— day of ——, (I am not positive about the date,) a vast crowd of people, for purposes not specifically mentioned, were assembled in the great square of the Exchange in the well-conditioned city of Rotterdam. The day was warm—unusually so for the season—there was hardly a breath of air stirring; and the multitude were in no bad humor at being now and then besprinkled with friendly showers of momentary duration, that fell from

large white masses of cloud profusely distributed about the blue vault of the firmament. Nevertheless, about noon, a slight but remarkable agitation became apparent in the assembly: the clattering of ten thousand tongues succeeded; and, in an instant afterward, ten thousand faces were upturned toward the heavens, ten thousand pipes descended simultaneously from the corners of ten thousand mouths, and a shout, which could be compared to nothing but the roaring of Niagara, resounded long, loudly, and furiously, through all the city and through all the environs of Rotterdam.

The origin of this hubbub soon became sufficiently evident. From behind the huge bulk of one of those sharply defined masses of cloud already mentioned, was seen slowly to emerge into an open area of blue space, a queer, heterogeneous, but apparently solid substance, so oddly shaped, so whimsically put together, as not to be in any manner comprehended, and never to be sufficiently admired, by the host of sturdy burghers who stood open-mouthed below. What could it be? In the name of all the devils in Rotterdam, what could it possibly portend? No one knew; no one could imagine; no one—not even the burgomaster Mynheer Superbus Von Underduk—had the slightest clew by which to unravel the mystery; so, as nothing more reasonable could be done, every one to a man replaced his pipe carefully in the corner of his mouth, and maintaining an eye steadily upon the phenomenon, puffed, paused, waddled about, and

grunted significantly — then waddled back, grunted, paused, and finally—puffed again.

In the meantime, however, lower and still lower toward the goodly city, came the object of so much curiosity, and the cause of so much smoke. In a very few minutes it arrived near enough to be accurately discerned. It appeared to be—yes! it *was* undoubtedly a species of balloon; but surely no *such* balloon had ever been seen in Rotterdam before. For who, let me ask, ever heard of a balloon manufactured entirely of dirty newspapers? No man in Holland certainly; yet here, under the very noses of the people, or rather at some distance *above* their noses was the identical thing in question, and composed, I have it on the best authority, of the precise material which no one had ever before known to be used for a similar purpose. It was an egregious insult to the good sense of the burghers of Rotterdam. As to the shape of the phenomenon, it was even still more reprehensible. Being little or nothing better than a huge fool's-cap turned upside down. And this similitude was regarded as by no means lessened when, upon nearer inspection, the crowd saw a large tassel depending from its apex, and, around the upper rim or base of the cone, a circle of little instruments, resembling sheep-bells, which kept up a continual tinkling to the tune of Betty Martin. But still worse.—Suspended by blue ribbons to the end of this fantastic machine, there hung, by way of car, an enormous drab beaver hat, with a brim superlatively broad, and a hemi-

spherical crown with a black band and a silver buckle. It is, however, somewhat remarkable that many citizens of Rotterdam swore to having seen the same hat repeatedly before; and indeed the whole assembly seemed to regard it with eyes of familiarity; while the crow Grettel Pfaall, upon sight of it, uttered an exclamation of joyful surprise, and declared it to be the identical hat of her good man himself. Now this was a circumstance the more to be observed, as Pfaall, with three companions, had actually disappeared from Rotterdam about five years before, in a very sudden and unaccountable manner, and up to the date of this narrative all attempts at obtaining intelligence concerning them had failed. To be sure, some bones which were thought to be human, mixed up with a quantity of odd-looking rubbish, had been lately discovered in a retired situation to the east of the city; and some people went so far as to imagine that in this spot a foul murder had been committed, and that the sufferers were in all probability Hans Pfaall and his associates. But to return.

The balloon (for such no doubt it was) had now descended to within a hundred feet of the earth, allowing the crowd below a sufficiently distinct view of the person of its occupant. This was in truth a very singular somebody. He could not have been more than two feet in height; but this altitude, little as it was, would have been sufficient to destroy his *equilibrium*, and tilt him over the edge of his tiny car, but for the intervention of a circular rim reaching as high as the

breast, and rigged on to the cords of the balloon. The body of the little man was more than proportionally broad, giving to his entire figure a rotundity highly absurd. His feet, of course, could not be seen at all. His hands were enormously large. His hair was gray, and collected into a *queue* behind. His nose was prodigiously long, crooked, and inflammatory; his eyes full, brilliant, and acute; his chin and cheeks, although wrinkled with age, were broad, puffy, and double; but of ears of any kind there was not a semblance to be discovered upon any portion of his head. This odd little gentleman was dressed in a loose surtout of sky-blue satin, with tight breeches to match, fastened with silver buckles at the knees. His vest was of some bright yellow material; a white taffety cap was set jauntily on one side of his head; and, to complete his equipment, a blood-red silk handkerchief enveloped his throat, and fell down, in a dainty manner, upon his bosom, in a fantastic bow-knot of super-eminent dimensions.

Having descended, as I said before, to about one hundred feet from the surface of the earth, the little old gentleman was suddenly seized with a fit of trepidation, and appeared disinclined to make any nearer approach to *terra firma*. Throwing out, therefore, a quantity of sand from a canvas bag, which he lifted with great difficulty, he became stationary in an instant. He then proceeded, in a hurried and agitated manner, to extract from a side-pocket in his surtout a large morocco pocket-book. This he poised suspiciously

in his hand, then eyed it with an air of extreme surprise, and was evidently astonished at its weight. He at length opened it, and drawing therefrom a huge letter sealed with red sealing-wax and tied carefully with red tape, let it fall precisely at the feet of the burgomaster, Superbus Von Underduk. His Excellency stooped to take it up. But the aëronaut, still greatly discomposed, and having apparently no further business to detain him in Rotterdam, began at this moment to make busy preparations for departure; and, it being necessary to discharge a portion of ballast to enable him to reascend, the half dozen bags which he threw out, one after another, without taking the trouble to empty their contents, tumbled, every one of them, most unfortunately upon the back of the burgomaster, and rolled him over and over no less than half a dozen times, in the face of every individual in Rotterdam. It is not to be supposed, however, that the great Underduk suffered this impertinence on the part of the little old man to pass off with impunity. It is said, on the contrary, that during each of his half dozen circumvolutions he emitted no less than half a dozen distinct and furious whiffs from his pipe, to which he held fast the whole time with all his might, and to which he intends holding fast (God willing) until the day of his decease.

In the meantime the balloon arose like a lark, and, soaring far away above the city, at length drifted quietly behind a cloud similar to that from which it had so oddly emerged, and was

thus lost forever to the wondering eyes of the good citizens of Rotterdam. All attention was now directed to the letter, the descent of which, and the consequences attending thereupon, had proved so fatally subversive of both person and personal dignity to his Excellency, Von Underduk. That functionary, however, had not failed, during his circumgyratory movements, to bestow a thought upon the important object of securing the epistle, which was seen, upon inspection, to have fallen into the most proper hands, being actually addressed to himself and Professor Rubadub, in their official capacities of President and Vice-President of the Rotterdam College of Astronomy. It was accordingly opened by those dignitaries upon the spot, and found to contain the following extraordinary, and indeed very serious, communication:—

"*To their Excellencies Von Underduk and Rubadub, President and Vice-President of the States' College of Astronomers, in the city of Rotterdam.*

"Your Excellencies may perhaps be able to remember an humble artizan, by name Hans Pfaall, and by occupation a mender of bellows, who, with three others, disappeared from Rotterdam, about five years ago, in a manner which must have been considered unaccountable. If, however, it so please your Excellencies, I, the writer of this communication, am the identical Hans Pfaall himself. It is well known to most

of my fellow-citizens, that for the period of forty years I continued to occupy the little square brick building, at the head of the alley called Sauerkraut, in which I resided at the time of my disappearance. My ancestors have also resided therein time out of mind—they, as well as myself, steadily following the respectable and indeed lucrative profession of mending of bellows: for, to speak the truth, until of late years, that the heads of all the people have been set agog with politics, no better business than my own could an honest citizen of Rotterdam either desire or deserve. Credit was good, employment was never wanting, and there was no lack of either money or good-will. But, as I was saying, we soon began to feel the effects of liberty and long speeches, and radicalism, and all that sort of thing. People who were formerly the best customers in the world, had now not a moment of time to think of us at all. They had as much as they could do to read about the revolutions, and keep up with the march of intellect and the spirit of the age. If a fire wanted fanning, it could readily be fanned with a newspaper; and as the government grew weaker, I have no doubt that leather and iron acquired durability in proportion—for, in a very short time, there was not a pair of bellows in all Rotterdam that ever stood in need of a stitch or required the assistance of a hammer. This was a state of things not to be endured. I soon grew as poor as a rat, and, having a wife and children to provide for, my burdens at length became intolerable, and I spent

hour after hour in reflecting upon the most convenient method of putting an end to my life. Duns, in the meantime, left me little leisure for contemplation. My house was literally besieged from morning till night. There were three fellows in particular who worried me beyond endurance, keeping watch continually about my door, and threatening me with the law. Upon these three I vowed the bitterest revenge, if ever I should be so happy as to get them within my clutches; and I believe nothing in the world but the pleasure of this anticipation prevented me from putting my plan of suicide into immediate execution, by blowing my brains out with a blunderbuss. I thought it best, however, to dissemble my wrath, and to treat them with promises and fair words, until, by some good turn of fate, an opportunity of vengeance should be afforded me.

"One day, having given them the slip, and feeling more than usually dejected, I continued for a long time to wander about the most obscure streets without object, until at length I chanced to stumble against the corner of a bookseller's stall. Seeing a chair close at hand, for the use of customers, I threw myself doggedly into it, and, hardly knowing why, opened the pages of the first volume which came within my reach. It proved to be a small pamphlet treatise on Speculative Astronomy, written either by Professor Encke of Berlin or by a Frenchman of somewhat similar name. I had some little tincture of information on matters of this nature, and soon became more and more absorbed in the contents

of the book—reading it actually through twice before I awoke to a recollection of what was passing around me. By this time it began to grow dark, and I directed my steps toward home. But the treatise (in conjunction with a discovery in pneumatics, lately communicated to me as an important secret, by a cousin from Nantz) had made an indelible impression on my mind, and, as I sauntered along the dusky streets, I revolved carefully over in my memory the wild and sometimes unintelligible reasonings of the writer. There are some particular passages which affected my imagination in an extraordinary manner. The longer I meditated upon these, the more intense grew the interest which had been excited within me. The limited nature of my education in general, and more especially my ignorance on subjects connected with natural philosophy, so far from rendering me diffident of my own ability to comprehend what I had read, or inducing me to mistrust the many vague notions which had arisen in consequence, merely served as a farther stimulus to imagination; and I was vain enough, or perhaps reasonable enough, to doubt whether those crude ideas which, arising in ill-regulated minds, have all the appearance, may not often in effect possess all the force, the reality, and other inherent properties, of instinct or intuition.

"It was late when I reached home, and I went immediately to bed. My mind, however, was too much occupied to sleep, and I lay the whole night buried in meditation. Arising early in the

morning, I repaired eagerly to the bookseller's stall, and laid out what little ready money I possessed, in the purchase of some volumes of Mechanics and Practical Astronomy. Having arrived at home safely with these, I devoted every spare moment to their perusal, and soon made such proficiency in studies of this nature as I thought sufficient for the execution of a certain design with which either the Devil or my better genius had inspired me. In the intervals of this period, I made every endeavor to conciliate the three creditors who had given me so much annoyance. In this I finally succeeded—partly by selling enough of my household furniture to satisfy a moiety of their claim, and partly by a promise of paying the balance upon completion of a little project which I told them I had in view, and for assistance in which I solicited their services. By these means (for they were ignorant men) I found little difficulty in gaining them over to my purpose.

"Matters being thus arranged, I contrived, by the aid of my wife and with the greatest secrecy and caution, to dispose of what property I had remaining, and to borrow, in small sums, under various pretences, and without giving any attention (I am ashamed to say) to my future means of repayment, no inconsiderable quantity of ready money. With the means thus accruing I proceeded to procure at intervals, cambric muslin, very fine, in pieces of twelve yards each; twine; a lot of the varnish of caoutchouc; a large and deep basket of wicker-work, made to

order; and several other articles necessary in the construction and equipment of a balloon of extraordinary dimensions. This I directed my wife to make up as soon as possible, and gave her all requisite information as to the particular method of proceeding. In the meantime I worked up the twine into network of sufficient dimensions; rigged it with a hoop and the necessary cords; and made purchase of numerous instruments and materials for experiment in the upper regions of the upper atmosphere. I then took opportunities of conveying by night, to a retired situation east of Rotterdam, five iron-bound casks, to contain about fifty gallons each, and one of a larger size; six tin tubes, three inches in diameter; properly shaped, and ten feet in length; a quantity of a *particular metallic substance, or semi-metal,* which I shall not name, and a dozen demijohns of *a very common acid.* The gas to be formed from these latter materials is a gas never yet generated by any other person than myself—or at least never applied to any similar purpose. I can only venture to say here, that it is *a constituent of azote,* so long considered irreducible, and that its density is about 37.4 times *less than that of hydrogen.* It is tasteless, but not odorless; burns, when pure, with a greenish flame; and is instantaneously fatal to animal life. Its full secret I would make no difficulty in disclosing, but that it of right belongs (as I have before hinted) to a citizen of Nantz, in France, by whom it was conditionally communicated to myself. The same individual submitted to me, without being

at all aware of my intentions, a method of constructing balloons from the membrane of a certain animal, through which substance any escape of gas was nearly an impossibility. I found it however altogether too expensive, and was not sure, upon the whole, whether cambric muslin with a coating of gum caoutchouc, was not equally as good. I mention this circumstance, because I think it probable that hereafter the individual in question may attempt a balloon ascension with the novel gas and material I have spoken of, and I do not wish to deprive him of the honor of a very singular invention.

"On the spot which I intended each of the smaller casks to occupy respectively during the inflation of the balloon, I privately dug a small hole; the holes forming in this manner a circle twenty-five feet in diameter. In the centre of this circle, being the station designed for the large cask, I also dug a hole of greater depth. In each of the five smaller holes, I deposited a canister containing fifty pounds, and in the larger one a keg holding one hundred and fifty pounds, of cannon powder. These—the keg and canisters —I connected in a proper manner with covered trains; and having let into one of the canisters the end of about four feet of slow match, I covered up the hole, and placed the cask over it, leaving the other end of the match protruding about an inch, and barely visible beyond the cask. I then filled up the remaining holes, and placed the barrels over them in their destined situation!

"Besides the articles above enumerated, I conveyed to the *dépôt,* and there secreted, one of Mr. Grimm's improvements upon the apparatus for condensation of the atmospheric air. I found this machine, however, to require considerable alteration before it could be adapted to the purposes to which I intended making it applicable. But, with severe labor and unremitting perseverance, I at length met with entire success in all my preparations. My balloon was soon completed. It would contain more than forty thousand cubic feet of gas; would take me up easily, I calculated, with all my implements, and, if I managed rightly, with one hundred and seventy-five pounds of ballast into the bargain. It had received three coats of varnish, and I found the cambric muslin to answer all the purposes of silk itself, being quite as strong and a good deal less expensive.

"Every thing now being ready, I exacted from my wife an oath of secrecy in relation to all my actions from the day of my first visit to the bookseller's stall; and promising, on my part, to return as soon as circumstances would permit, I gave her what little money I had left, and bade her farewell. Indeed I had no fear on her account. She was what people call a notable woman, and could manage matters in the world without my assistance. I believe, to tell the truth, she always looked upon me as an idle body —a mere make-weight—good for nothing but building castles in the air,—and was rather glad to get rid of me. It was a dark night when I

bade her good-bye, and taking with me, as *aides-de-camp,* the three creditors who had given me so much trouble, we carried the balloon, with the car and accoutrements, by a roundabout way, to the station where the other articles were deposited. We there found them all unmolested, and I proceeded immediately to business.

"It was the first of April. The night, as I said before, was dark; there was not a star to be seen; and a drizzling rain, falling at intervals, rendered us very uncomfortable. But my chief anxiety was concerning the balloon, which, in spite of the varnish with which it was defended, began to grow rather heavy with the moisture; the powder also was liable to damage. I therefore kept my three duns working with great diligence, pounding down ice around the central cask, and stirring the acid in the others. They did not cease, however, importuning me with questions as to what I intended to do with all this apparatus, and expressed much dissatisfaction at the terrible labor I made them undergo. They could not perceive (so they said) what good was likely to result from their getting wet to the skin, merely to take part in such horrible incantations. I began to get uneasy, and worked away with all my might, for I verily believe the idiots supposed that I had entered into a compact with the devil, and that, in short, what I was now doing was nothing better than it should be. I was, therefore, in great fear of their leaving me altogether. I contrived, however, to pacify them by promises of payment of all scores in full, as soon

as I could bring the present business to a termination. To these speeches they gave, of course, their own interpretation; fancying, no doubt, that at all events I should come into possession of vast quantities of ready money; and provided I paid them all I owed, and a trifle more, in consideration of their services, I dare say they cared very little what became of either my soul or my carcass.

"In about four hours and a half I found the balloon sufficiently inflated. I attached the car, therefore, and put all my implements in it: a telescope, a barometer, with some important modifications; a thermometer; an electrometer; a compass; a magnetic needle; a seconds watch; a bell; a speaking-trumpet, etc., etc., etc.; also a globe of glass, exhausted of air, and carefully closed with a stopper,—not forgetting the condensing apparatus, some unslacked lime, a stick of sealing wax, a copious supply of water, and a large quantity of provisions, such as pemmican, in which much nutriment is contained in comparatively little bulk. I also secured in the car a pair of pigeons and a cat.

"It was now nearly daybreak, and I thought it high time to take my departure. Dropping a lighted cigar on the ground, as if by accident, I took the opportunity, in stooping to pick it up, of igniting privately the piece of slow match, the end of which, as I said before, protruded a little beyond the lower rim of one of the smaller casks. This manœuvre was totally unperceived on the part of the three duns; and, jumping into the

car, I immediately cut the single cord which held me to the earth, and was pleased to find that I shot upward with inconceivable rapidity, carrying with all ease one hundred and seventy-five pounds of leaden ballast, and able to have carried up as many more. As I left the earth, the barometer stood at thirty inches, and the centigrade thermometer at 19°.

"Scarcely, however, had I attained the height of fifty yards, when, roaring and rumbling up after me in the most tumultuous and terrible manner, came so dense a hurricane of fire, and gravel, and burning wood, and blazing metal, and mangled limbs, that my very heart sunk within me, and I fell down in the bottom of the car trembling with terror. Indeed, I now perceived that I had entirely overdone the business, and that the main consequences of the shock were yet to be experienced. Accordingly, in less than a second, I felt all the blood in my body rushing to my temples, and immediately thereupon, a concussion, which I shall never forget, burst abruptly through the night, and seemed to rip the very firmament asunder. When I afterward had time for reflection, I did not fail to attribute the extreme violence of the explosion, as regarded myself, to its proper cause—my situation directly above it, and in the line of its greatest power. But at the time, I thought only of preserving my life. The balloon at first collapsed, then furiously expanded, then whirled round and round with sickening velocity, and finally, reeling and staggering like a drunken man,

hurled me over the rim of the car, and left me dangling, at a terrific height, with my head downward, and my face outward, by a piece of slender cord about three feet in length, which hung accidentally through a crevice near the bottom of the wicker-work, and in which, as I fell, my left foot became most providentially entangled. It is impossible—utterly impossible—to form any adequate idea of the horror of my situation. I gasped convulsively for breath—a shudder resembling a fit of the ague agitated every nerve and muscle in my frame—I felt my eyes starting from their sockets—a horrible nausea overwhelmed me—and at length I lost all consciousness in a swoon.

"How long I remained in this state it is impossible to say. It must, however, have been no inconsiderable time, for when I partially recovered the sense of existence, I found the day breaking, the balloon at a prodigious height over a wilderness of ocean, and not a trace of land to be discovered far and wide within the limits of the vast horizon. My sensations, however, upon thus recovering, were by no means so replete with agony as might have been anticipated. Indeed, there was much of madness in the calm survey which I began to take of my situation. I drew up to my eyes each of my hands, one after the other, and wondered what occurrence could have given rise to the swelling of the veins, and the horrible blackness of the finger-nails. I afterward carefully examined my head, shaking it repeatedly, and feeling it with minute at-

tention, until I succeeded in satisfying myself that it was not, as I had more than half suspected, larger than my balloon. Then, in a knowing manner, I felt in both my breeches pockets, and, missing therefrom a set of tablets and a tooth-pick case, endeavored to account for their disappearance, and not being able to do so, felt inexpressibly chagrined. It now occurred to me that I suffered great uneasiness in the joint of my left ankle, and a dim consciousness of my situation began to glimmer through my mind. But, strange to say! I was neither astonished nor horror-stricken. If I felt any emotion at all, it was a kind of chuckling satisfaction at the cleverness I was about to display in extricating myself from this dilemma; and never, for a moment, did I look upon my ultimate safety as a question susceptible of doubt. For a few minutes I remained wrapped in the profoundest meditation. I have a distinct recollection of frequently compressing my lips, putting my fore-finger to the side of my nose, and making use of other gesticulations and grimaces common to men who, at ease in their arm-chairs, meditate upon matters of intricacy or importance. Having, as I thought, sufficiently collected my ideas, I now, with great caution and deliberation, put my hands behind my back, and unfastened the large iron buckle which belonged to the waistband of my pantaloons. This buckle had three teeth, which, being somewhat rusty, turned with great difficulty on their axis. I brought them, however, after some trouble, at

right angles to the body of the buckle, and was glad to find them remain firm in that position. Holding within my teeth the instrument thus obtained, I now proceeded to untie the knot of my cravat. I had to rest several times before I could accomplish this manœuvre; but it was at length accomplished. To one end of the cravat I then made fast the buckle, and the other end I tied, for greater security, tightly around my wrist. Drawing now my body upward, with a prodigious exertion of muscular force, I succeeded, at the very first trial, in throwing the buckle over the car, and entangling it, as I had anticipated, in the circular rim of the wicker-work.

"My body was now inclined toward the side of the car, at an angle of about forty-five degrees; but it must not be understood that I was therefore only forty-five degrees below the perpendicular. So far from it, I still lay nearly level with the plane of the horizon; for the change of situation which I had acquired, had forced the bottom of the car considerably outward from my position, which was accordingly one of the most imminent peril. It should be remembered, however, that when I fell, in the first instance, from the car, if I had fallen with my face turned toward the balloon, instead of turned outwardly from it, as it actually was; or if, in the second place, the cord by which I was suspended had chanced to hang over the upper edge, instead of through a crevice near the bottom of the car,—I say it may readily be

conceived that, in either of these supposed cases, I should have been unable to accomplish even as much as I had now accomplished, and the disclosures now made would have been utterly lost to posterity. I had therefore every reason to be grateful; although, in point of fact, I was still too stupid to be any thing at all, and hung for, perhaps, a quarter of an hour, in that extraordinary manner, without making the slightest farther exertion, and in a singularly tranquil state of idiotic enjoyment. But this feeling did not fail to die rapidly away, and thereunto succeeded horror, and dismay, and a sense of utter helplessness and ruin. In fact, the blood so long accumulating in the vessels of my head and throat, and which had hitherto buoyed up my spirits with delirium, had now begun to retire within their proper channels, and the distinctness which was thus added to my perception of the danger, merely served to deprive me of the self-possession and courage to encounter it. But this weakness was, luckily for me, of no very long duration. In good time came to my rescue the spirit of despair, and, with frantic cries and struggles, I jerked my way bodily upward, till at length, clutching with a vise-like grip the long-desired rim, I writhed my person over it, and fell headlong and shuddering within the car.

"It was not until some time afterward that I recovered myself sufficiently to attend to the ordinary cares of the balloon. I then, however, examined it with attention, and found it,

to my great relief, uninjured. My implements were all safe, and, fortunately, I had lost neither ballast nor provisions. Indeed, I had so well secured them in their places, that such an accident was entirely out of the question. Looking at my watch, I found it six o'clock. I was still rapidly ascending, and the barometer gave a present altitude of three and three-quarter miles. Immediately beneath me in the ocean, lay a small black object, slightly oblong in shape, seemingly about the size of a domino, and in every respect bearing a great resemblance to one of those toys. Bringing my telescope to bear upon it, I plainly discerned it to be a British ninety-four-gun ship, close-hauled, and pitching heavily in the sea with her head to the W. S. W. Besides this ship, I saw nothing but the ocean and the sky, and the sun, which had long arisen.

"It is now high time that I should explain to your Excellencies the object of my voyage. Your Excellencies will bear in mind that distressed circumstances in Rotterdam had at length driven me to the resolution of committing suicide. It was not, however, that to life itself I had any positive disgust, but that I was harassed beyond endurance by the adventitious miseries attending my situation. In this state of mind, wishing to live, yet wearied with life, the treatise at the stall of the bookseller, backed by the opportune discovery of my cousin of Nantz, opened a resource to my imagination. I then finally made up my mind. I deter-

mined to depart, yet live—to leave the world, yet continue to exist—in short, to drop enigmas, I resolved, let what would ensue, to force a passage, if I could, *to the moon.* Now, lest I should be supposed more of a madman than I actually am, I will detail, as well as I am able, the considerations which led me to believe that an achievement of this nature, although without doubt difficult, and full of danger, was not absolutely, to a bold spirit, beyond the confines of the possible.

"The moon's actual distance from the earth was the first thing to be attended to. Now, the mean or average interval between the *centres* of the two planets is 59.9643 of the earth's equatorial *radii,* or only about 237,000 miles. I say the mean or average interval;—but it must be borne in mind that the form of the moon's orbit being an ellipse of eccentricity amounting to no less than 0.05484 of the major semi-axis of the ellipse itself, and the earth's centre being situated in its focus, if I could, in any manner, contrive to meet the moon in its perigee, the above mentioned distance would be materially diminished. But, to say nothing at present of this possibility, it was very certain that, at all events, from the 237,000 miles I would have to deduct the *radius* of the earth, say 4,000, and the radius of the moon, say 1,080, in all 5,080, leaving an actual interval to be traversed, under average circumstances, of 231,920 miles. Now this, I reflected, was no very extraordinary distance. Travelling on the

land has been repeatedly accomplished at the rate of sixty miles per hour; and indeed a much greater speed may be anticipated. But even at this velocity, it would take me no more than 161 days to reach the surface of the moon. There were, however, many particulars inducing me to believe that my average rate of travelling might possibly very much exceed that of sixty miles per hour, and, as these considerations did not fail to make a deep impression upon my mind, I will mention them more fully hereafter.

"The next point to be regarded was one of far greater importance. From indications afforded by the barometer, we find that, in ascensions from the surface of the earth we have, at the height of 1,000 feet, left below us about one-thirtieth of the entire mass of atmospheric air; that at 10,600 we have ascended through nearly one-third; and that at 18,000, which is not far from the elevation of Cotopaxi, we have surmounted one-half the material, or, at all events, one-half the *ponderable,* body of air incumbent upon our globe. It is also calculated that at an altitude not exceeding the hundredth part of the earth's diameter—that is, not exceeding eighty miles—the rarefaction would be so excessive that animal life could in no manner be sustained, and, moreover, that the most delicate means we possess of ascertaining the presence of the atmosphere would be inadequate to assure us of its existence. But I did not fail to perceive that these latter calculations

are founded altogether on our experimental knowledge of the properties of air, and the mechanical laws regulating its dilation and compression, in what may be called, comparatively speaking, *the immediate vicinity* of the earth itself; and, at the same time, it is taken for granted that animal life is and must be essentially *incapable of modification* at any given unattainable distance from the surface. Now, all such reasoning and from such *data* must, of course, be simply analogical. The greatest height ever reached by man was that of 25,000 feet, attained in the aëronautic expedition of Messieurs Gay-Lussac and Biot. This is a moderate altitude, even when compared with the eighty miles in question; and I could not help thinking that the subject admitted room for doubt and great latitude for speculation.

"But, in point of fact, an ascension being made to any given altitude, the ponderable quantity of air surmounted in any *farther* ascension is by no means in proportion to the additional height ascended (as may be plainly sen from what has been stated before), but in a *ratio* constantly decreasing. It is therefore evident that, ascend as high as we may, we cannot, literally speaking, arrive at a limit beyond which *no* atmosphere is to be found. It *must exist*, I argued; although it *may* exist in a state of infinite rarefaction.

"On the other hand, I was aware that arguments have not been wanting to prove the existence of a real and definite limit to the atmos-

phere, beyond which there is absolutely no air whatsoever. But a circumstance which has been left out of view by those who contend for such a limit, seemed to me, although no positive refutation of their creed, still a point worthy very serious investigation. On comparing the intervals between the successive arrivals of Encke's comet at its perihelion, after giving credit, in the most exact manner, for all the disturbances due to the attractions of the planets, it appears that the periods are gradually diminishing; that is to say, the major axis of the comet's ellipse is growing shorter, in a slow but perfectly regular decrease. Now, this is precisely what ought to be the case, if we suppose a resistance experienced from the comet from an extremely *rare ethereal medium* pervading the regions of its orbit. For it is evident that such a medium must, in retarding the comet's velocity, increase its centripetal, by weakening its centrifugal, force. In other words, the sun's attraction would be constantly attaining greater power, and the comet would be drawn nearer at every revolution. Indeed, there is no other way of accounting for the variation in question. But again:—The real diameter of the same comet's nebulosity is observed to contract rapidly as it approaches the sun, and dilate with equal rapidity in its departure towards its aphelion. Was I not justifiable in supposing, with M. Valz, that this apparent condensation of volume has its origin in the compression of the same ethereal medium

I have spoken of before, and which is dense in proportion to its vicinity to the sun? The lenticular-shaped phenomenon, also called the zodiacal light, was a matter worthy of attention. This radiance, so apparent in the tropics, and which cannot be mistaken for any meteoric lustre, extends from the horizon obliquely upward, and follows generally the direction of the sun's equator. It appeared to me evidently in the nature of a rare atmosphere extending from the sun outward, beyond the orbit of Venus at least, and I believed indefinitely farther.* Indeed, this medium I could not suppose confined to the path of the comet's ellipse, or to the immediate neighborhood of the sun. It was easy, on the contrary, to imagine it pervading the entire regions of our planetary system, condensed into what we call atmosphere at the planets themselves, and perhaps at some of them modified by considerations purely geological; that is to say, modified, or varied in its proportions (or absolute nature) by matters volatilized from the respective orbs.

"Having adopted this view of the subject, I had little farther hesitation. Granting that on my passage I should meet with atmosphere *essentially* the same as at the surface of the earth, I conceived that, by means of the very ingenious apparatus of M. Grimm, I should readily be enabled to condense it in sufficient quan-

* The zodiacal light is probably what the ancients called Trabes. *Emicant et trabes quas docos vocant.*—Pliny lib. 2, p. 26.

tity for the purposes of respiration. This would remove the chief obstacle in a journey to the moon. I had indeed spent some money and great labor in adapting the apparatus to the object intended, and confidently looked forward to its successful application, if I could manage to complete the voyage within any reasonable period. This brings me back to the *rate* at which it would be possible to travel.

"It is true that balloons, in the first stage of their ascensions from the earth, are known to rise with a velocity comparatively moderate. Now, the power of elevation lies altogether in the superior gravity of the atmospheric air compared with the gas in the balloon; and, at first sight, it does not appear probable that, as the balloon acquires altitude, and consequently arrives successively in atmospheric *strata* of densities rapidly diminishing—I say, it does not appear at all reasonable that, in this its progress upward, the original velocity should be accelerated. On the other hand, I was not aware that, in any recorded ascension, a *diminution* had been proved to be apparent in the absolute rate of ascent; although such should have been the case, if on account of nothing else, on account of the escape of gas through balloons ill-constructed, and varnished with no better material than the ordinary varnish. It seemed, therefore, that the effect of such escape was only sufficient to counterbalance the effect of the acceleration attained in the diminishing of the balloon's distance from the gravitating centre. I now considered that, provided

in my passage I found the *medium* I had imagined, and provided that it should prove to be *essentially* what we denominate atmospheric air, it could make comparatively little difference at what extreme state of rarefaction I should discover it—that is to say, in regard to my power of ascending—for the gas in the balloon would not only be itself subject to similar rarefaction (in proportion to the occurrence of which, I could suffer an escape of so much as would be requisite to prevent explosion), but, *being what it was,* would, at all events, continue specifically lighter than any compound whatever of mere nitrogen and oxygen. Thus there was a chance —in fact there was a strong probability—that, *at no epoch of my ascent, I should reach a point where the united weights of my immense balloon, the inconceivably rare gas within it, the car, and its contents, should equal the weight of the mass of the surrounding atmosphere displaced;* and this will be readily understood as the sole condition upon which my upward flight would be arrested. But, if this point were even attained, I could dispense with ballast and other weight to the amount of nearly three hundred pounds. In the meantime, the force of gravitation would be constantly diminishing, in proportion to the squares of the distances, and so, with a velocity prodigiously accelerating, I should at length arrive in those distant regions where the force of the earth's attraction would be superseded by that of the moon.

"There was another difficulty, however,

which occasioned me some little disquietude. It has been observed, that, in balloon ascensions to any considerable height, besides the pain attending respiration, great uneasiness is experienced about the head and body, often accompanied with bleeding at the nose, and other symptoms of an alarming kind, and growing more and more inconvenient in proportion to the altitude attained.* This was a reflection of a nature somewhat startling. Was it not probable that these symptoms would increase until terminated by death itself? I finally thought not. Their origin was to be looked for in the progressive removal of the *customary* atmospheric pressure upon the surface of the body, and consequent distention of the superficial blood-vessels—not in any positive disorganization of the animal system, as in the case of difficulty in breathing, where the atmospheric density is *chemically insufficient* for the due renovation of blood in a verticle of the heart. Unless for default of this renovation, I could see no reason, therefore, why life could not be sustained even in a *vacuum;* for the expansion and compression of chest, commonly called breathing, is action purely muscular, and the *cause,* not the *effect,* of respiration. In a word, I conceived that, as the body should become habituated to the want of atmospheric pressure, the sensations of pain would gradually diminish

* Since the original publication of Hans Pfaall, I find that Mr. Green, of Nassau-balloon notoriety, and other late aëronauts, deny the assertions of Humboldt, in this respect, and speak of a *decreasing* inconvenience,—precisely in accordance with the theory here urged.

—and to endure them while they continued, I relied with confidence upon the iron hardihood of my constitution.

"Thus, may it please your Excellencies, I have detailed some, though by no means all, the considerations which led me to form the project of a lunar voyage. I shall now proceed to lay before you the result of an attempt so apparently audacious in conception, and, at all events, so utterly unparalleled in the annals of mankind.

"Having attained the altitude before mentioned—that is to say three miles and three quarters—I threw out from the car a quantity of feathers, and found that I still ascended with sufficient rapidity; there was, therefore, no necessity for discharging any ballast. I was glad of this, for I wished to retain with me as much weight as I could carry, for the obvious reason that I could not be positive either about the gravitation or the atmospheric density of the moon. I as yet suffered no bodily inconvenience, breathing with great freedom, and feeling no pain whatever in the head. The cat was lying very demurely upon my coat, which I had taken off, and eyeing the pigeons with an air of *nonchalance*. These latter being tied by the leg, to prevent their escape, were busily employed in picking up some grains of rice scattered for them in the bottom of the car.

"At twenty minutes past six o'clock, the barometer showed an elevation of 26,400 feet, or five miles to a fraction. The prospect seemed unbounded. Indeed, it is very easily calculated

by means of spherical geometry, how great an extent of the earth's area I beheld. The convex surface of any segment of a sphere is, to the entire surface of the sphere itself, as the versed sine of the segment to the diameter of the sphere. Now, in my case, the versed sine—that is to say, the *thickness* of the segment beneath me—was about equal to my elevation, or the elevation of the point of sight above the surface. 'As five miles, then, to eight thousand,' would express the proportion of the earth's area seen by me. In other words, I beheld as much as a sixteen-hundredth part of the whole surface of the globe. The sea appeared unruffled as a mirror, although, by means of the telescope, I could perceive it to be in a state of violent agitation. The ship was no longer visible, having drifted away, apparently to the eastward. I now began to experience, at intervals, severe pain in the head, especially about the ears—still, however, breathing with tolerable freedom. The cat and pigeons seemed to suffer no inconvenience whatsoever.

"At twenty minutes before seven, the balloon entered a long series of dense cloud, which put me to great trouble, by damaging my condensing apparatus, and wetting me to the skin; this was, to be sure, a singular *rencontre*, for I had not believed it possible that a cloud of this nature could be sustained at so great an elevation. I thought it best, however, to throw out two five-pound pieces of ballast, reserving still a weight of one hundred and sixty-five pounds. Upon so doing, I soon rose above the difficulty, and perceived

immediately, that I had obtained a great increase in my rate of ascent. In a few seconds after my leaving the cloud, a flash of vivid lightning shot from one end of it to the other, and caused it to kindle up, throughout its vast extent, like a mass of ignited charcoal. This, it must be remembered, was in the broad light of day. No fancy may picture the sublimity which might have been exhibited by a similar phenomenon taking place amid the darkness of the night. Hell itself might have been found a fitting image. Even as it was, my hair stood on end, while I gazed afar down within the yawning abysses, letting imagination descend, and stalk about in the strange vaulted halls, and ruddy gulfs, and red ghastly chasms of the hideous and unfathomable fire. I had indeed made a narrow escape. Had the balloon remained a very short while longer within the cloud—that is to say, had not the inconvenience of getting wet, determined me to discharge the ballast—my destruction might, and probably would, have been the consequence. Such perils, although little considered, are perhaps the greatest which must be encountered in balloons. I had by this time, however, attained too great an elevation to be any longer uneasy on this head.

"I was now rising rapidly, and by seven o'clock the barometer indicated an altitude of no less than nine miles and a half. I began to find great difficulty in drawing my breath. My head, too, was excessively painful; and, having felt for some time a moisture about my cheeks, I at length discovered it to be blood, which was

oozing quite fast from the drums of my ears. My eyes, also, gave me great uneasiness. Upon passing the hand over them they seemed to have protruded from their sockets in no inconsiderable degree; and all objects in the car, and even the balloon itself, appeared distorted to my vision. These symptoms were more than I had expected, and occasioned me some alarm. At this juncture, very imprudently, and without consideration, I threw out from the car three five-pound pieces of ballast. The accelerated rate of ascent thus obtained, carried me too rapidly, and without sufficient gradation, into a highly rarefied *stratum* of the atmosphere, and the result had nearly proved fatal to my expedition and to myself. I was suddenly seized with a spasm which lasted for more than five minutes, and even when this, in a measure, ceased, I could catch my breath only at long intervals, and in a gasping manner,—bleeding all the while copiously at the nose and ears, and even slightly at the eyes. The pigeons appeared distressed in the extreme, and struggled to escape; while the cat mewed piteously, and, with her tongue hanging out of her mouth, staggered to and fro in the car as if under the influence of poison. I now too late discovered the great rashness of which I had been guilty in discharging the ballast, and my agitation was excessive. I anticipated nothing less than death, and death in a few minutes. The physical suffering I underwent contributed also to render me nearly incapable of making any exertion for the preservation of my life. I

had, indeed, little power of reflection left, and the violence of the pain in my head seemed to be greatly on the increase. Thus I found that my senses would shortly give way altogether, and I had already clutched one of the valve ropes with the view of attempting a descent, when the recollection of the trick I had played the three creditors, and the possible consequences to myself, should I return, operated to deter me for the moment. I lay down in the bottom of the car, and endeavored to collect my faculties. In this I so far succeeded as to determine upon the experiment of losing blood. Having no lancet, however, I was constrained to perform the operation in the best manner I was able, and finally succeeded in opening a vein in my left arm, with the blade of my pen-knife. The blood had hardly commenced flowing when I experienced a sensible relief, and by the time I had lost about half a moderate basinful, most of the worst symptoms had abandoned me entirely. I nevertheless did not think it expedient to attempt getting on my feet immediately; but, having tied up my arm as well as I could, I lay still for about a quarter of an hour. At the end of this time I arose, and found myself freer from absolute *pain* of any kind than I had been during the last hour and a quarter of my ascension. The difficulty of breathing, however, was diminished in a very slight degree, and I found that it would soon be positively necessary to make use of my condenser. In the meantime, looking toward the cat, who was again snugly stowed away upon my

coat, I discovered to my infinite surprise, that she had taken the opportunity of my indisposition to bring into light a litter of three little kittens. This was an addition to the number of passengers on my part altogether unexpected; but I was pleased at the occurrence. It would afford me a chance of bringing to a kind of test the truth of a surmise, which, more than anything else, had influenced me in attempting this ascension. I had imagined that the *habitual* endurance of the atmospheric pressure at the surface of the earth was the cause, or nearly so, of the pain attending animal existence at a distance above the surface. Should the kittens be found to suffer uneasiness *in an equal degree with their mother,* I must consider my theory in fault, but a failure to do so I should look upon as a strong confirmation of my idea.

"By eight o'clock I had actually attained an elevation of seventeen miles above the surface of the earth. Thus it seemed to me evident that my rate of ascent was not only on the increase, but that the progression would have been apparent in a slight degree even had I not discharged the ballast which I did. The pains in my head and ears returned, at intervals, with violence, and I still continued to bleed occasionally at the nose; but, upon the whole, I suffered much less than might have been expected. I breathed, however, at every moment, with more and more difficulty, and each inhalation was attended with a troublesome spasmodic action of the chest. I now

unpacked the condensing apparatus, and got it ready for immediate use.

"The view of the earth, at this period of my ascension, was beautiful indeed. To the westward, the northward, and the southward, as far as I could see, lay a boundless sheet of apparently unruffled ocean, which every moment gained a deeper and deeper tint of blue. At a vast distance to the eastward, although perfectly discernible, extended the islands of Great Britain, the entire Atlantic coasts of France and Spain, with a small portion of the northern part of the continent of Africa. Of individual edifices not a trace could be discovered, and the proudest cities of mankind had utterly faded away from the face of the earth.

"What mainly astonished me, in the appearance of things below, was the seeming concavity of the surface of the globe. I had, thoughtlessly enough, expected to see its real *convexity* become evident as I ascended; but a very little reflection sufficed to explain the discrepancy. A line dropped from my position perpendicularly to the earth, would have formed the perpendicular of a right-angled triangle, of which the base would have extended from the right-angle to the horizon, and the hypothenuse from the horizon to my position. But my height was little or nothing in comparison with my prospect. In other words, the base and hypothenuse of the supposed triangle would, in my case, have been so long, when compared to the perpendicular, that the two former might have been regarded as nearly

parallel. In this manner the horizon of the aëronaut appears always to be *upon a level* with the car. But as the point immediately beneath him seems, and is, at a great distance below him, it seems, of course, also at a great distance below the horizon. Hence the impression of concavity; and this impression must remain, until the elevation shall bear so great a proportion to the prospect, that the apparent parallelism of the base and hypothenuse disappears.

"The pigeons about this time seeming to undergo much suffering, I determined upon giving them their liberty. I first untied one of them, a beautiful gray-mottled pigeon, and placed him upon the rim of the wicker-work. He appeared extremely uneasy, looking anxiously around him, fluttering his wings, and making a loud cooing noise, but could not be persuaded to trust himself from the car. I took him up at last, and threw him to about half a dozen yards from the balloon. He made, however, no attempt to descend as I had expected, but struggled with great vehemence to get back, uttering at the same time very shrill and piercing cries. He at length succeeded in regaining his former station on the rim, but had hardly done so when his head dropped upon his breast, and he fell dead within the car. The other one did not prove so unfortunate. To prevent his following the example of his companion, and accomplishing a return, I threw him downward with all my force, and was pleased to find him continue his descent, with great velocity, making use of his wings with ease,

and in a perfectly natural manner. In a very short time he was out of sight, and I have no doubt he reached home in safety. Puss, who seemed in a great measure recovered from her illness, now made a hearty meal of the dead bird, and then went to sleep with much apparent satisfaction. Her kittens were quite lively, and so far evinced not the slightest sign of any uneasiness.

"At a quarter past eight, being able no longer to draw breath without the most intolerable pain, I proceeded forthwith to adjust around the car the apparatus belonging to the condenser. This apparatus will require some little explanation, and your Excellencies will please to bear in mind that my object, in the first place, was to surround myself and car entirely with a barricade against the highly rarefied atmosphere in which I was existing, with the intention of introducing within this barricade, by means of my condenser, a quantity of this same atmosphere sufficiently condensed for the purposes of respiration. With this object in view I had prepared a very strong, perfectly air-tight, but flexible gum-elastic bag. In this bag, which was of sufficient dimensions, the entire car was in a manner placed. That is to say, it (the bag) was drawn over the whole bottom of the car, up its sides, and so on, along the outside of the ropes, to the upper rim or hoop where the net-work is attached. Having pulled the bag up in this way, and formed a complete enclosure on all sides, and at bottom, it was now necessary to

fasten up its top or mouth, by passing its material over the hoop of the net-work,—in other words, between the net-work and the hoop. But if the net-work were separated from the hoop to admit this passage, what was to sustain the car in the meatime? Now the net-work was not permanently fastened to the hoop, but attached by a series of running loops or nooses. I therefore undid only a few of these loops at one time, leaving the car suspended by the remainder. Having thus inserted a portion of the cloth forming the upper part of the bag, I refastened the loops—not to the hoop, for that would have been impossible, since the cloth now intervened,—but to a series of large buttons, affixed to the cloth itself, about three feet below the mouth of the bag; the intervals between the buttons having been made to correspond to the intervals between the loops. This done, a few more of the loops were unfastened from the rim, a farther portion of the cloth introduced, and the disengaged loops then connected with their proper buttons. In this way it was possible to insert the whole upper part of the bag between the net-work and the hoop. It is evident that the hoop would now drop down within the car, while the whole weight of the car itself, with all its contents, would be held up merely by the strength of the buttons. This, at first sight, would seem an inadequate dependence; but it was by no means so, for the buttons were not only very strong in themselves, but so close together that a very slight portion of the whole weight was supported by any one of

them. Indeed, had the car and contents been three times heavier than they were, I should not have been at all uneasy. I now raised up the hoop again within the covering of gum elastic, and propped it at nearly its former height by means of three light poles prepared for the occasion. This was done, of course, to keep the bag distended at the top, and to preserve the lower part of the net-work in its proper situation. All that now remained was to fasten up the mouth of the enclosure; and this was readily accomplished by gathering the folds of the material together, and twisting them up very tightly on the inside by means of a kind of stationary *tourniquet*.

"In the sides of the covering thus adjusted round the car, had been inserted three circular panes of thick but clear glass, through which I could see without difficulty around me in every horizontal direction. In that portion of the cloth forming the bottom, was likewise, a fourth window, of the same kind, and corresponding with a small aperture in the floor of the car itself. This enabled me to see perpendicularly down, but having found it impossible to place any similar contrivance overhead, on account of the peculiar manner of closing up the opening there, and the consequent wrinkles in the cloth, I could expect to see no objects situated directly in my zenith. This, of course, was a matter of little consequence; for, had I even been able to place a window at top, the balloon itself would have prevented my making any use of it.

"About a foot below one of the side windows was a circular opening, three inches in diameter, and fitted with a brass rim adapted in its inner edge to the windings of a screw. In this rim was screwed the large tube of the condenser, the body of the machine being, of course, within the chamber of gum elastic. Through this tube a quantity of the rare atmosphere circumjacent being drawn by means of a *vacuum* created in the body of the machine, was thence discharged, in a state of condensation, to mingle with the thin air already in the chamber. This operation being repeated several times, at length filled the chamber with atmosphere proper for all the purposes of respiration; but in so confined a space it would, in a short time, necessarily become foul, and unfit for use from frequent contact with the lungs. It was then ejected by a small valve at the bottom of the car—the dense air readily sinking into the thinner atmosphere below. To avoid the inconvenience of making a total *vacuum* at any moment within the chamber, this purification was never accomplished all at once, but in a gradual manner,—the valve being opened only for a few seconds, then closed again, until one or two strokes from the pump of the condenser had supplied the place of the atmosphere ejected. For the sake of experiment I had put the cat and kittens in a small basket, and suspended it outside the car to a button at the bottom, close by the valve, through which I could feed them at any moment when necessary. I did this at some little risk, and before closing the mouth of the

chamber, by reaching under the car with one of the poles before mentioned to which a hook had been attached. As soon as dense air was admitted in the chamber, the hoop and poles became unnecessary; the expansion of the enclosed atmosphere powerfully distending the gum-elastic.

"By the time I had fully completed these arrangements and filled the chamber as explained, it wanted only ten minutes of nine o'clock. During the whole period of my being thus employed, I endured the most terrible distress from difficulty of respiration, and bitterly did I repent the negligence or rather fool-hardiness, of which I had been guilty, of putting off to the last moment a matter of so much importance. But having at length accomplished it, I soon began to reap the benefit of my invention. Once again I breathed with perfect freedom and ease—and indeed why should I not? I was also agreeably surprised to find myself, in a great measure, relieved from the violent pains which had hitherto tormented me. A slight headache, accompanied with a sensation of fulness or distention about the wrists, the ankles, and the throat, was nearly all of which I had now to complain. Thus it seemed evident that a greater part of the uneasiness attending the removal of atmospheric pressure had actually *worn off*, as I had expected, and that much of the pain endured for the last two hours should have been attributed altogether to the effects of a deficient respiration.

"At twenty minutes before nine o'clock—that is to say, a short time prior to my closing up the

mouth of the chamber, the mercury attained its limit, or ran down, in the barometer, which, as I mentioned before, was one of an extended construction. It then indicated an altitude on my part of 132,000 feet, or five-and-twenty miles, and I consequently surveyed at that time an extent of the earth's area amounting to no less than the three-hundred-and-twentieth part of its entire superficies. At nine o'clock I had again lost sight of land to the eastward, but not before I became aware that the balloon was drifting rapidly to the N. N. W. The ocean beneath me still retained its apparent concavity, although my view was often interrupted by the masses of cloud which floated to and fro.

"At half past nine I tried the experiment of throwing out a handful of feathers through the valve. They did not float as I had expected; but dropped down perpendicularly, like a bullet, *en masse,* and with the greatest velocity,—being out of sight in a very few seconds. I did not at first know what to make of this extraordinary phenomenon; not being able to believe that my rate of ascent had, of a sudden, met with so prodigious an acceleration. But it soon occurred to me that the atmosphere was now far too rare to sustain even the feathers; that they actually fell, as they appear to do, with great rapidity; and that I had been surprised by the united velocities of their descent and my own elevation.

"By ten o'clock I found that I had very little to occupy my immediate attention. Affairs went swimmingly, and I believed the balloon to be go-

ing upward with a speed increasing momently although I had no longer any means of ascertaining the progression of the increase. I suffered no pain or uneasiness of any kind, and enjoyed better spirits than I had at any period since my departure from Rotterdam; busying myself now in examining the state of my various apparatus, and now in regenerating the atmosphere within the chamber. This latter point I determined to attend to at regular intervals of forty minutes, more on account of the preservation of my health, than from so frequent a renovation being absolutely necessary. In the meanwhile I could not help making anticipations. Fancy revelled in the wild and dreamy regions of the moon. Imagination, feeling herself for once unshackled, roamed at will among the ever-changing wonders of a shadowy and unstable land. Now there were hoary and time-honored forests, and craggy precipices, and waterfalls tumbling with a loud noise into abysses without a bottom. Then I came suddenly into still noonday solitudes, where no wind of heaven ever intruded, and where vast meadows of poppies, and slender, lily-looking flowers spread themselves out a weary distance, all silent and motionless forever. Then again I journeyed far down away into another country where it was all one dim and vague lake, with a boundary line of clouds. But fancies such as these were not the sole possessors of my brain. Horrors of a nature most stern and most appalling would too frequently obtrude themselves upon my mind, and shake the innermost depths

of my soul with the bare supposition of their possibility. Yet I would not suffer my thoughts for any length of time to dwell upon these latter speculations, rightly judging the real and palpable dangers of the voyage sufficient for my undivided attention.

"At five o'clock, P. M., being engaged in regenerating the atmosphere within the chamber, I took that opportunity of observing the cat and kittens through the valve. The cat herself appeared to suffer again very much, and I had no hesitation in attributing her uneasiness chiefly to a difficulty in breathing; but my experiment with the kittens had resulted very strangely. I had expected, of course, to see them betray a sense of pain, although in a less degree than their mother ; and this would have been sufficient to confirm my opinion concerning the habitual endurance of atmospheric pressure. But I was not prepared to find them, upon close examination, evidently enjoying a high degree of health, breathing with the greatest ease and perfect regularity, and evincing not the slightest sign of any uneasiness. I could only account for all this by extending my theory, and supposing that the highly rarefied atmosphere around might perhaps not be, as I had taken for granted, chemically insufficient for the purposes of life, and that a person born in such a *medium* might, possibly, be unaware of any inconvenience attending its inhalation, while, upon removal to the denser *strata* near the earth, he might endure tortures of a similar nature to those I had so lately expe-

rienced. It has since been to me a matter of deep regret that an awkward accident, at this time occasioned me the loss of my little family of cats, and deprived me of the insight into this matter which a continued experiment might have afforded. In passing my hand through the valve, with a cup of water for the old puss, the sleeves of my shirt became entangled in the loop which sustained the basket, and thus, in a moment, loosened it from the bottom. Had the whole actually vanished into air, it could not have shot from my sight in a more abrupt and instantaneous manner. Positively, there could not have intervened the tenth part of a second between the disengagement of the basket and its absolute disappearance with all that it contained. My good wishes followed it to the earth, but of course, I had no hope that either cat or kittens would ever live to tell the tale of their misfortune.

"At six o'clock, I perceived a great portion of the earth's visible area to the eastward involved in thick shadow, which continued to advance with great rapidity, until, at five minutes before seven, the whole surface in view was enveloped in the darkness of night. It was not, however, until long after this time that the rays of the setting sun ceased to illumine the balloon; and this circumstance, although of course fully anticipated, did not fail to give me an infinite deal of pleasure. It was evident that, in the morning, I should behold the rising luminary many hours at least before the citizens of Rotterdam, in spite of their situation so much farther to the east-

ward, and thus, day after day, in proportion to the height ascended, would I enjoy the light of the sun for a longer and a longer period. I now determined to keep a journal of my passage, reckoning the days from one to twenty-four hours continuously, without taking into consideration the intervals of darkness.

"At ten o'clock, feeling sleepy, I determined to lie down for the rest of the night; but here a difficulty presented itself, which, obvious as it may appear, had escaped my attention up to the very moment of which I am now speaking. If I went to sleep as I proposed, how could the atmosphere in the chamber be regenerated in the *interim?* To breathe it for more than an hour, at the farthest, would be a matter of impossibility; or, of even this term could be extended to an hour and a quarter, the most ruinous consequences might ensue. The consideration of this dilemma gave me no little disquietude; and it will hardly be believed, that, after the dangers I had undergone, I should look upon this business in so serious a light, as to give up all hope of accomplishing my ultimate design, and finally make up my mind to the necessity of a descent. But this hesitation was only momentary. I reflected that man is the veriest slave of custom, and that many points in the routine of his existence are deemed *essentially* important, which are only so *at all* by his having rendered them habitual. It was very certain that I could not do without sleep; but I might easily bring myself to feel no inconven-

sence from being awakened at intervals of an hour during the whole period of my repose. It would require but five minutes at most to regenerate the atmosphere in the fullest manner —and the only real difficulty was to contrive a method of arousing myself at the proper moment for so doing. But this was a question which, I am willing to confess, occasioned me no little trouble in its solution. To be sure, I had heard of the student who, to prevent his falling asleep over his books, held in one hand a ball of copper, the din of whose descent into a basin of the same metal on the floor beside his chair, served effectually to startle him up, if, at any moment, he should be overcome with drowsiness. My own case, however, was very different indeed, and left me no room for any similar idea; for I did not wish to keep awake, but to be aroused from slumber at regular intervals of time. I at length hit upon the following expedient, which, simple as it may seem, was hailed by me, at the moment of discovery, as an invention fully equal to that of the telescope, the steam-engine, or the art of printing itself.

"It is necessary to premise, that the balloon, at the elevation now attained, continued its course upward with an even and undeviating ascent, and the car consequently followed with a steadiness so perfect that it would have been impossible to detect in it the slightest vacillation. This circumstance favored me greatly in the project I now determined to adopt. My supply of water had been put on board in kegs

containing five gallons each, and ranged very securely around the interior of the car. I unfastened one of these, and taking two ropes, tied them tightly across the rim of the wicker-work from one side to the other; placing them about a foot apart and parallel, so as to form a kind of shelf, upon which I placed the keg, and steadied it in a horizontal position. About eight inches immediately below these ropes, and four feet from the bottom of the car I fastened another shelf—but made of thin plank, being the only similar piece of wood I had. Upon this latter shelf, and exactly beneath one of the rims of the keg, a small earthen pitcher was deposited. I now bored a hole in the end of the keg over the pitcher, and fitted in a plug of soft wood, cut in a tapering or conical shape. This plug I pushed in or pulled out, as might happen, until, after a few experiments, it arrived at that exact degree of tightness, at which the water, oozing from the hole, and falling into the pitcher below, would fill the latter to the brim in the period of sixty minutes. This, of course, was a matter briefly and easily ascertained, by noticing the proportion of the pitcher filled in any given time. Having arranged all this, the rest of the plan is obvious. My bed was so contrived upon the floor of the car, as to bring my head, in lying down, immediately below the mouth of the pitcher. It was evident, that, at the expiration of an hour, the pitcher, getting full, would be forced to run over, and to run over at the mouth, which was

somewhat lower than the rim. It was also evident, that the water thus falling from a height of more than four feet, could not do otherwise than fall upon my face, and that the sure consequences would be, to waken me up instantaneously, even from the soundest slumber in the world.

"It was fully eleven by the time I had completed these arrangements, and I immediately betook myself to bed, with full confidence in the efficiency of my invention. Nor in this matter was I disappointed. Punctually every sixty minutes was I aroused by my trusty chronometer, when, having emptied the pitcher into the bung-hole of the keg, and performed the duties of the condenser, I retired again to bed. These regular interruptions to my slumber caused me even less discomfort than I had anticipated; and when finally I arose for the day, it was seven o'clock, and the sun had attained many degrees above the line of my horizon.

"*April 3d.* I found the balloon at an immense height indeed, and the earth's convexity had now become strikingly manifest. Below me in the ocean lay a cluster of black specks, which undoubtedly were islands. Overhead, the sky was of a jetty black, and the stars were brilliantly visible; indeed they had been so constantly since the first day of ascent. Far away to the northward I perceived a thin, white, and exceedingly brilliant line, or streak, on the edge of the horizon, and I had no hesitation in supposing it to be the southern disc of the ices of

the Polar Sea. My curiosity was greatly excited, for I had hopes of passing on much farther to the north, and might possibly, at some period, find myself placed directly above the Pole itself. I now lamented that my great elevation would, in this case, prevent my taking as accurate a survey as I could wish. Much, however, might be ascertained.

"Nothing else of an extraordinary nature occurred during the day. My apparatus all continued in good order, and the balloon still ascended without any perceptible vacillation. The cold was intense, and obliged me to wrap up closely in an overcoat. When darkness came over the earth, I betook myself to bed, although it was for many hours afterward broad daylight all around my immediate situation. The water-clock was punctual in its duty, and I slept until next morning soundly, with the exception of the periodical interruption.

"*April 4th.* Arose in good health and spirits, and was astonished at the singular change which had taken place in the appearance of the sea. It had lost, in a great measure, the deep tint of blue it had hitherto worn, being now of a grayish-white, and of a lustre dazzling to the eye. The convexity of the ocean had become so evident, that the entire mass of the distant water semed to be tumbling headlong over the abyss of the horizon, and I found myself listening on tiptoe for the echoes of the mighty cataract. The islands were no longer visible; whether they had passed down the horizon to

the southeast, or whether my increasing elevation had left them out of sight, it is impossible to say. I was inclined, however, to the latter opinion. The rim of ice to the northward was growing more and more apparent. Cold by no means so intense. Nothing of importance occurred, and I passed the day in reading, having taken care to supply myself with books.

"*April 5th.* Beheld the singular phenomenon of the sun rising while nearly the whole visible surface of the earth continued to be involved in darkness. In time, however, the light spread itself over all, and I again saw the line of ice to the northward. It was now very distinct, and appeared of a much darker hue than the waters of the ocean. I was evidently approaching it, and with great rapidity. Fancied I could again distinguish a strip of land to the eastward, and one also to the westward but could not be certain. Weather moderate. Nothing of any consequence happened during the day. Went early to bed.

"*April 6th.* Was surprised at finding the rim of ice at a very moderate distance, and an immense field of the same material stretching away off to the horizon in the north. It was evident that if the balloon held its present course, it would soon arrive above the Frozen Ocean, and I had now little doubt of ultimately seeing the Pole. During the whole of the day I continued to near the ice. Toward night the limits of my horizon very suddenly and materially increased, owing undoubtedly to the

earth's form being that of an oblate spheriod, and my arriving above the flattened regions in the vicinity of the Arctic circle. When darkness at length overtook me, I went to bed in great anxiety, fearing to pass over the object of so much curiosity when I should have no opportunity of observing it.

"*April 7th.* Arose early, and, to my great joy, at length beheld what there could be no hesitation in supposing the northern Pole itself. It was there, beyond a doubt, and immediately beneath my feet; but, alas! I had now ascended to so vast a distance, that nothing could with accuracy be discerned. Indeed, to judge from the progression of the numbers indicating my various altitudes, respectively, at different periods, between six A. M. on the second of April, and twenty minutes before nine A. M. of the same day (at which time the barometer ran down), it might be fairly inferred that the balloon had now, at four o'clock in the morning of April the seventh, reached a height of *not less,* certainly, than 7254 miles above the surface of the sea. This elevation may appear immense, but the estimate upon which it is calculated gave a result in all probability far inferior to the truth. At all events I undoubtedly beheld the whole of the earth's major diameter; the entire northern hemisphere lay beneath me like a chart orthographically projected: and the great circle of the equator itself formed the boundary line of my horizon. Your Excellencies may, however, readily imagine that the confined regions hitherto un-

explored within the limits of the Arctic circle, although situated directly beneath me, and therefore seen without any appearance of being foreshortened, were still, in themselves, comparatively too diminutive, and at too great a distance from the point of sight, to admit of any very accurate examination. Nevertheless, what could be seen was of a nature singular and exciting. Northwardly from that huge rim before mentioned, and which, with slight qualification, may be called the limit of human discovery in these regions, one unbroken, or nearly unbroken, sheet of ice continues to extend. In the first few degrees of this its progress, its surface is very sensibly flattened, farther on depressed into a plane, and finally, becoming *not a little concave,* it terminates, at the Pole itself, in a circular centre, sharply defined, whose apparent diameter subtended at the balloon an angle of about sixty-five seconds, and whose dusky hue, varying in intensity, was, at all times, darker than any other spot upon the visible hemisphere, and occasionally deepened into the most absolute blackness. Farther than this, little could be ascertained. By twelve o'clock the circular centre had materially decreased in circumference, and by seven P. M. I lost sight of it entirely; the balloon passing over the western limb of the ice, and floating away rapidly in the direction of the equator.

"*April 8th.* Found a sensible diminution in the earth's apparent diameter, besides a material alteration in its general color and appearance. The whole visible area partook in different de-

grees of a tint of pale yellow, and in some portions had acquired a brilliancy even painful to the eye. My view downward was also considerably impeded by the dense atmosphere in the vicinity of the surface being loaded with clouds, between whose masses I could only now and then obtain a glimpse of the earth itself. This difficulty of direct vision had troubled me more or less for the last forty-eight hours; but my present enormous elevation brought closer together, as it were, the floating bodies of vapor, and the inconvenience became, of course, more and more palpable in proportion to my ascent. Nevertheless, I could easily perceive that the balloon now hovered above the range of great lakes in the continent of North America, and was holding a course, due south, which would soon bring me to the tropics. This circumstance did not fail to give me the most heartfelt satisfaction, and I hailed it as a happy omen of ultimate success. Indeed, the direction I had hitherto taken, had filled me with uneasiness; for it was evident that, had I continued it much longer, there would have been no possibility of my arriving at the moon at all, whose orbit is inclined to the ecliptic at only the small angle of 5° 8′ 48″. Strange as it may seem, it was only at this late period that I began to understand the great error I had committed, in not taking my departure from earth at some point *in the plane of the lunar ellipse.*

April 9th. To-day the earth's diameter was greatly diminished, and the color of the surface assumed hourly a deeper tint of yellow. The

balloon kept steadily on her course to the southward, and arrived, at nine P. M., over the northern edge of the Mexican Gulf.

"*April 10th.* I was suddenly aroused from slumber, about five o'clock this morning, by a loud, crackling, and terrific sound, for which I could in no manner account. It was of very brief duration, but while it lasted, resembled nothing in the world of which I had any previous experience. It is needless to say that I became excessively alarmed, having, in the first instance, attributed the noise to the bursting of the balloon. I examined all my apparatus, however, with great attention, and could discover nothing out of order. Spent a great part of the day in meditating upon an occurrence so extraordinary, but could find no means whatever of accounting for it. Went to bed dissatisfied, and in a state of great anxiety and agitation.

"*April 11th.* Found a startling diminution in the apparent diameter of the earth, and a considerable increase, now observable for the first time, in that of the moon itself, which wanted only a few days of being full. It now required long and excessive labor to condense within the chamber sufficient atmospheric air for the sustenance of life.

"*April 12th.* A singular alteration took place in regard to the direction of the balloon, and although fully anticipated, afforded me the most unequivocal delight. Having reached, in its former course, about the twentieth parallel of southern latitude, it turned off suddenly, at an acute

angle, to the eastward, and thus proceeded throughout the day, keeping nearly, if not altogether, *in the exact plane of the lunar ellipse.* What was worthy of remark, a very perceptible vacillation in the car was a consequence of this change of route,—a vacillation which prevailed, in a more or less degree, for a period of many hours.

"*April 13th.* Was again very much alarmed by a repetition of the loud, crackling noise which terrified me on the tenth. Thought long upon the subject, but was unable to form any satisfactory conclusion. Great decrease in the earth's apparent diameter, which now subtended from the balloon an angle of very little more than twenty-five degrees. The moon could not be seen at all, being nearly in my zenith. I still continued in the plane of the ellipse, but made little progress to the eastward.

"*April 14th.* Extremely rapid decrease in the diameter of the earth. To-day I became strongly impressed with the idea, that the balloon was now actually running up the line of apsides to the point of perigee,—in other words, holding the direct course which would bring it immediately to the moon in that part of its orbit the nearest to the earth. The moon itself was directly overhead, and consequently hidden from my view. Great and long-continued labor necessary for the condensation of the atmosphere.

"*April 15th.* Not even the outlines of continents and seas could now be traced upon the earth with distinctness. About twelve o'clock I

became aware, for the third time, of that appalling sound which had so astonished me before. It now, however, continued for some moments, and gathered intensity as it continued. At length, while, stupefied and terror-stricken, I stood in expectation of I knew not what hideous destruction, the car vibrated with excessive violence, and a gigantic and flaming mass of some material which I could not distinguish, came with a voice of a thousand thunders, roaring and booming by the balloon. When my fears and astonishment had in some degree subsided, I had little difficulty in supposing it to be some mighty volcanic fragment ejected from that world to which I was so rapidly approaching, and, in all probability, one of that singular class of substances occasionally picked up on the earth, and termed meteoric stones for want of a better appellation.

"*April 16th.* To-day, looking upward as well as I could, through each of the side windows alternately, I beheld, to my great delight, a very small portion of the moon's disk protruding, as it were, on all sides beyond the huge circumference of the balloon. My agitation was extreme; for I had now little doubt of soon reaching the end of my perilous voyage. Indeed, the labor now required by the condenser, had increased to a most oppressive degree, and allowed me scarcely any respite from exertion. Sleep was a matter nearly out of the question. I became quite ill, and my frame trembled with exhaustion. It was impossible that human nature could

endure this state of intense suffering much longer. During the now brief interval of darkness a meteoric stone again passed in my vicinity, and the frequency of these phenomena began to occasion me much apprehension.

"*April 17th.* This morning proved an epoch in my voyage. It will be remembered that, on the thirteenth, the earth subtended an angular breadth of twenty-five degrees. On the fourteenth this had greatly diminished; on the fifteenth a still more remarkable decrease was observable; and, on retiring on the night of the sixteenth, I had noticed an angle of no more than about seven degrees and fifteen minutes. What, therefore, must have been my amazement, on awakening from a brief and disturbed slumber, on the morning of this day, the seventeenth, at finding the surface beneath me so suddenly and wonderfully *augmented* in volume, as to subtend no less than thirty-nine degrees in apparent angular diameter! I was thunderstruck! No words can give any adequate idea of the extreme, the absolute horror and astonishment, with which I was seized, possessed, and altogether overwhelmed. My knees tottered beneath me—my teeth chattered—my hair started up on end. 'The balloon, then, had actually burst!' These were the first tumultuous ideas that hurried through my mind: 'The balloon had positively burst!—I was falling—falling with the most impetuous, the most unparalleled velocity! To judge by the immense distance already so quickly passed over, it could not be more than

ten minutes, at the farthest, before I should reach the surface of the earth, and be hurled into annihilation!' But at length reflection came to my relief. I paused; I considered; and I began to doubt. The matter was impossible. I could not in any reason have so rapidly come down. Besides, although I was evidently approaching the surface below me, it was with a speed by no means commensurate with the velocity I had at first conceived. This consideration served to calm the perturbation of my mind, and I finally succeeded in regarding the phenomenon in its proper point of view. In fact, amazement must have fairly deprived me of my senses, when I could not see the vast difference, in appearance, between the surface below me, and the surface of my mother earth. The latter was indeed over my head, and completely hidden by the balloon, while the moon—the moon itself in all its glory —lay beneath me, and at my feet.

"The stupor and surprise produced in my mind by this extraordinary change in the posture of affairs, was, perhaps, after all, that part of the adventure least susceptible of explanation. For the *bouleversement* in itself was not only natural and inevitable, but had been long actually anticipated as a circumstance to be expected whenever I should arrive at that exact point of my voyage where the attraction of the planet should be superseded by the attraction of the satellite—or, more precisely, where the gravitation of the balloon toward the earth should be less powerful than its gravitation toward the

moon. To be sure I arose from a sound slumber, with all my senses in confusion, to the contemplation of a very startling phenomenon, and one which, although expected, was not expected at the moment. The revolution itself must, of course, have taken place in an easy and gradual manner, and it is by no means clear that, had I even been awake at the time of the occurrence, I should have been made aware of it by and *internal* evidence of an inversion,—that is to say, by any inconvenience or disarrangement, either about my person or about my apparatus.

"It is almost needless to say that, upon coming to a due sense of my situation, and emerging from the terror which had absorbed every faculty of my soul, my attention was, in the first place, wholly directed to the contemplation of the general physical appearance of the moon. It lay beneath me like a chart—and although I judged it to be still at no inconsiderable distance, the indentures of its surface were defined to my vision with a most striking and altogether unaccountable distinctness. The entire absence of ocean or sea, and indeed of any lake or river, or body of water whatsoever, struck me, at first glance, as the most extraordinary feature in its geological condition. Yet, strange to say, I beheld vast level regions of a character decidedly alluvial, although by far the greater portion of the hemisphere in sight was covered with innumerable volcanic mountains, conical in shape, and having more the appearance of artificial than of natural protuberances. The highest

among them does not exceed three and three-quarter miles in perpendicular elevation; but a map of the volcanic districts of the Campi Phlegræi would afford to your Excellencies a better idea of their general surface than any unworthy description I might think proper to attempt. The greater part of them were in a state of evident eruption, and gave me fearfully to understand their fury and their power, by the repeated thunders of the miscalled meteoric stones, which now rushed upward by the balloon with a frequency more and more appalling.

"*April 18th.* To-day I found an enormous increase in the moon's apparent bulk—and the evidently accelerated velocity of my descent began to fill me with alarm. It will be remembered, that, in the earliest stage of my speculations upon the possibility of a passage to the moon, the existence, in its vicinity, of an atmosphere, dense in proportion to the bulk of the planet, had entered largely into my calculations; this too in spite of many theories to the contrary, and, it may be added, in spite of a general disbelief in the existence of any lunar atmosphere at all. But, in addition to what I have already urged in regard to Encke's comet and the zodiacal light, I had been strengthened in my opinion by certain observations of Mr. Schroeter, of Lilienthal. He observed the moon when two days and a half old, in the evening soon after sunset, before the dark part was visible, and continued to watch it until it became visible The two cusps appeared tapering in a very sharp

faint prolongation, each exhibiting its farthest extremity faintly illuminated by the solar rays, before any part of the dark hemisphere was visible. Soon afterward, the whole dark limb became illuminated. This prolongation of the cusps beyond the semi-circle, I thought, must have arisen from the refraction of the sun's rays by the moon's atmosphere. I computed, also, the height of the atmosphere (which could refract light enough into its dark hemisphere to produce a twilight more luminous than the light reflected from the earth when the moon is about 32° from the new) to be 1356 Paris feet; in this view, I supposed the greatest height capable of refracting the solar ray, to be 5376 feet. My ideas on this topic had also received confirmation by a passage in the eighty-second volume of the Philosophical Transactions, in which it is stated, that, at an occultation of Jupiter's satellites, the third disappeared after having been about 1″ or 2″ of time indistinct, and the fourth became indiscernible near the limb.*

* Hevelius writes that he has several times found, in skies perfectly clear, when even stars of the sixth and seventh magnitude were conspicuous, that, at the same altitude of the moon, at the same elongation from the earth, and with one and the same excellent telescope, the moon and its maculæ did not appear equally lucid at all times. From the circumstances of the observation, it is evident that the cause of this phenomenon is not either in our air, in the tube, in the moon, or in the eye of the spectator, but must be looked for in something (an atmosphere?) existing about the moon.

Cassini frequently observed Saturn, Jupiter, and the fixed stars, when approaching the moon to occultation, to have their circular figure changed into an oval one; and, in other occultations, he found no alteration of figure at all. Hence it might be supposed, that *at some times*, and not at others, there is a dense matter encompassing the moon wherein the rays of the stars are refracted.

" Upon the resistance or, more properly, upon the support of an atmosphere, existing in the state of density imagined, I had, of course, entirely depended for the safety of my ultimate descent. Should I then, after all, prove to have been mistaken, I had in consequence nothing better to expect, as a *finale* to my adventure, than being dashed into atoms against the rugged surface of the satellite. And, indeed, I had now every reason to be terrified. My distance from the moon was comparatively trifling, while the labor required by the condenser was diminished not at all, and I could discover no indication whatever of a decreasing rarity in the air.

" *April 19th.* This morning, to my great joy, about nine o'clock, the surface of the moon being frightfully near, and my apprehensions excited to the utmost, the pump of my condenser at length gave evident tokens of an alteration in the atmosphere. By ten, I had reason to believe its density considerably increased. By eleven, very little labor was necessary at the apparatus; and at twelve o'clock, with some hesitation, I ventured to unscrew the *tourniquet,* when, finding no inconvenience from having done so, I finally threw open the gum-elastic chamber, and unrigged it from around the car. As might have been expected, spasms and violent headache were the immediate consequences of an experiment so precipitate and full of danger. But these and other difficulties attending respiration, as they were by no means so great as to put me in peril of my life, I determined to endure as I best

could, in consideration of my leaving them behind me momently in my approach to the denser *strata* near the moon. This approach, however, was still impetuous in the extreme; and it soon became alarmingly certain that, although I had probably not been deceived in the expectation of an atmosphere dense in proportion to the mass of the satellite, still I had been wrong in supposing this density, even at the surface, at all adequate to the support of the great weight contained in the car of my balloon. Yet this *should* have been the case, and in an equal degree as at the surface of the earth, the actual gravity of bodies at either planet supposed in the ratio of the atmospheric condensation. That it *was not* the case, however, my precipitous downfall gave testimony enough; *why* it was not so can only be explained by a reference to those possible geological disturbances to which I have formerly alluded. At all events I was now close upon the planet, and coming down with the most terrible impetuosity. I lost not a moment, accordingly, in throwing overboard first my ballast, then my water-kegs, then my condensing apparatus and gum-elastic chamber, and finally every article within the car. But it was all to no purpose. I still fell with horrible rapidity, and was now not more than half a mile from the surface. As a last resource, therefore, having got rid of my coat, hat, and boots, I cut loose from the balloon *the car itself,* which was of no inconsiderable weight, and thus, clinging with both hands to the net-work, I had barely time to observe that

the whole country, as far as the eye could reach, was thickly interspersed with diminutive habitations, ere I tumbled headlong into the very heart of a fantastical-looking city, and into the middle of a vast crowd of ugly little people, who none of them uttered a single syllable, or gave themselves the least trouble to render me assistance, but stood, like a parcel of idiots, grinning in a ludicrous manner, and eyeing me and my balloon askant, with their arms set a-kimbo. I turned from them in contempt, and, gazing upward at the earth so lately left, and left perhaps for ever, beheld it like a huge, dull, copper shield, about two degrees in diameter, fixed immovably in the heavens overhead, and tipped on one of its edges with a crescent border of the most brilliant gold. No traces of land or water could be discovered, and the whole was clouded with variable spots, and belted with tropical and equatorial zones.

" Thus, may it please your Excellencies, after a series of great anxieties, unheard-of dangers, and unparalleled escapes, I had, at length, on the nineteenth day of my departure from Rotterdam, arrived in safety at the conclusion of a voyage undoubtedly the most extraordinary, and the most momentous, ever accomplished, undertaken, or conceived by any denizen of earth. But my adventures yet remain to be related. And indeed your Excellencies may well imagine that, after a residence of five years upon a planet not only deeply interesting in its own peculiar character, but rendered doubly so by its intimate con-

nection, in capacity of satellite, with the world inhabited by man, I may have intelligence for the private ear of the States' College of Astronomers of far more importance than the details, however wonderful, of the mere *voyage* which so happily concluded. This is, in fact, the case. I have much—very much which it would give me the greatest pleasure to communicate. I have much to say of the climate of the planet; of its wonderful alternations of heat and cold; of unmitigated and burning sunshine for one fortnight, and more than polar frigidity for the next; of a constant transfer of moisture, by distillation like that *in vacuo,* from the point beneath the sun to the point the farthest from it; of a variable zone of running water; of the people themselves; of their manners, customs, and political institutions; of their peculiar physical construction; of their ugliness; of their want of ears, those useless appendages in an atmosphere so peculiarly modified; of their consequent ignorance of the use and properties of speech; of their substitute for speech in a singular method of inter-communication; of the incomprehensible connection between each particular individual in the moon with some particular individual on the earth—a connection analogous with, and depending upon, that of the orbs of the planet and the satellite, and by means of which the lives and destinies of the inhabitants of the one are interwoven with the lives and destinies of the inhabitants of the other; and above all, if it so please your Excellencies—above all, of those dark and

hideous mysteries which lie in the outer regions of the moon,—regions which, owing to the almost miraculous accordance of the satellite's rotation on its own axis with its sidereal revolution about the earth, have never yet been turned, and, by God's mercy, never shall be turned, to the scrutiny of the telescopes of man. All this, and more —much more—would I most willingly detail. But, to be brief, I must have my reward. I am pining for a return to my family and to my home; and as the price of any farther communication on my part—in consideration of the light which I have it in my power to throw upon many very important branches of physical and metaphysical science—I must solicit, through the influence of your honorable body, a pardon for the crime of which I have been guilty in the death of the creditors upon my departure from Rotterdam. This, then, is the object of the present paper. Its bearer, an inhabitant of the moon, whom I have prevailed upon, and properly instructed, to be my messenger to the earth, will await your Excellencies' pleasure, and return to me with the pardon in question, if it can, in any manner, be obtained.

"I have the honor to be, etc., your Excellencies' very humble servant,

HANS PFAALL."

Upon finishing the perusal of this very extraordinary document, Professor Rubadub, it is said, dropped his pipe upon the ground in the extremity of his surprise, and Mynheer Super-

bus Von Underduk having taken off his spectacles, wiped them, and deposited them in his pocket, so far forgot both himself and his dignity, as to turn round three times upon his heel in the quintessence of astonishment and admiration. There was no doubt about the matter—the pardon should be obtained. So at least swore, with a round oath, Professor Rubadub, and so finally thought the illustrious Von Underduk, as he took the arm of his brother in science, and without saying a word, began to make the best of his way home to deliberate upon the measures to be adopted. Having reached the door, however, of the burgomaster's dwelling, the professor ventured to suggest that as the messenger had thought proper to disappear—no doubt frightened to death by the savage appearance of the burghers of Rotterdam—the pardon would be of little use, as no one but a man of the moon would undertake a voyage to so vast a distance. To the truth of this observation the burgomaster assented, and the matter was therefore at an end. Not so, however, rumors and speculations. The letter, having been published, gave rise to a variety of gossip and opinion. Some of the overwise even made themselves ridiculous by decrying the whole business as nothing better than a hoax. But hoax, with these sort of people, is, I believe, a general term for all matters above their comprehension. For my part, I cannot conceive upon what data they have founded such an accusation. Let us see what they say:

Imprimis. That certain wags in Rotterdam

have certain especial antipathies to certain burgomasters and astronomers.

Secondly. That an odd little dwarf and bottle conjurer, both of whose ears, for some misdemeanor, have been cut off close to his head, has been missing for several days from the neighboring city of Bruges.

Thirdly. That the newspapers which were stuck all over the little balloon were newspapers of Holland, and therefore could not have been made in the moon. They were dirty papers—very dirty—and Gluck, the printer, would take his bible oath to their having been printed in Rotterdam.

Fourthly. That Hans Pfaall himself, the drunken villain, and the three very idle gentlemen styled his creditors, were all seen, no longer than two or three days ago, in a tippling house in the suburbs, having just returned, with money in their pockets from a trip beyond the sea.

Lastly. That it is an opinion very generally received, or which ought to be generally received, that the College of Astronomers in the city of Rotterdam, as well as all other colleges in all other parts of the world,—not to mention colleges and astronomers in general,—are, to say the least of the matter, not a whit better, nor greater, nor wiser than they ought to be.

NOTE.—Strictly speaking, there is but little similarity between the above sketchy trifle and the celebrated "Moon-Story" of Mr. Locke; but as both have the character of *hoaxes* (although the one is in a tone of banter, the other of downright earnest), and as both hoaxes are on the same subject, the moon,—moreover, as both attempt to give plausibility by scientific detail,—the author of "Hans Pfaall" thinks it

necessary to say, *in self-defence*, that his own *jeu d'esprit* was published, in the *Southern Literary Messenger*, about three weeks before the commencement of Mr. L.'s in the *New York Sun*. Fancying a likeness which, perhaps, does not exist, some of the New York papers copied "Hans Pfaall," and collated it with the "Moon-Hoax," by way of detecting the writer of the one in the writer of the other.

As many more persons were actually gulled by the "Moon-Hoax" than would be willing to acknowledge the fact, it may here afford some little amusement to show why no one should have been deceived—to point out those particulars of the story which should have been sufficient to establish its real character. Indeed, however rich the imagination displayed in this ingenious fiction, it wanted much of the force which might have been given it by a more scrupulous attention to facts and to general analogy. That the public were misled, even for an instant, merely proves the gross ignorance which is so generally prevalent upon subjects of an astronomical nature.

The moon's distance from the earth is, in round numbers, 240,000 miles. If we desire to ascertain how near, apparently, a lens would bring the satellite (or any distant object), we, of course, have but to divide the distance by the magnifying or, more strictly, by the space-penetrating power of the glass. Mr. L. makes his lens have a power of 42,000 times. By this divide 240,000 (the moon's real distance), and we have five miles and five sevenths, as the apparent distance. No animal at all could be seen so far; much less the minute points particularized in the story. Mr. L. speaks about Sir John Herschel's perceiving flowers (the Papaver rheas, etc.), and even detecting the color and the shape of the eyes of small birds. Shortly before, too, he has himself observed that the lens would not render perceptible objects of less than eighteen inches in diameter; but even this, as I have said, is giving the glass by far too great power. It may be observed, in passing, that this prodigious glass is said to have been moulded at the glass-house of Messrs. Hartley and Grant, in Dumberton; but Messrs. H. and G.'s establishment had ceased operations for many years previous to the publication of the hoax.

On page 13, pamphlet edition, speaking of "a hairy veil" over the eyes of a species of bison, the author says: "It immediately occurred to the acute mind of Dr. Herschel that this was a providential contrivance to protect the eyes of the animal from the great extremes of light and darkness to which all the inhabitants of our side of the moon are periodically subjected." But this cannot be thought a very "acute" observation of the Doctor's. The inhabitants of our side of the moon have, evidently, no darkness at all, so there can be nothing of the "extremes" mentioned. In the absence of the sun they have a light from the earth equal to that of thirteen full unclouded moons.

The topography throughout, even when professing to accord with Blunt's Lunar Chart, is entirely at variance with that or any other lunar chart, and even grossly at variance with itself. The points of the compass, too, are in inextricable

confusion; the writer appearing to be ignorant that, on a lunar map, these are not in accordance with terrestrial points; the east being to the left, etc.

Deceived, perhaps, by the vague titles, *Mare Nubium, Mare Tranquillitatis, Mare Foecunditatis*, etc., given to the dark spots by former astronomers, Mr. L. has entered into details regarding oceans and other large bodies of water in the moon; whereas there is no astronomical point more positively ascertained than that no such bodies exist there. In examining the boundary between light and darkness (in the crescent or gibbous moon) where this boundary crosses any of the dark places, the line of division is found to be rough and jagged; but, were these dark places liquid, it would evidently be even.

The description of the wings of the man-bat, on page 21, is but a literal copy of Peter Wilkins' account of the wings of his flying islanders. This simple fact should have induced suspicion, at least, it might be thought.

On page 23, we have the following: "What a prodigious influence must our thirteen times larger globe have exercised upon this satellite when an embryo in the womb of time, the passive subject of chemical affinity!" This is very fine; but it should be observed that no astronomer would have made such remark, especially to any Journal of Science; for the earth, in the sense intended, is not only thirteen, but forty-nine times *larger* than the moon. A similar objection applies to the whole of the concluding pages, where, by way of introduction to some discoveries in Saturn, the philosophical correspondent enters into a minute school-boy account of that planet:—this to the *Edinburgh Journal of Science!*

But there is one point, in particular, which should have betrayed the fiction. Let us imagine the power actually possessed of seeing animals upon the moon's surface;—what would *first* arrest the attention of an observer from the earth? Certainly neither their shape, size, nor any other such peculiarity, so soon as their remarkable *situation*. They would appear to be walking, with heels up and head down, in the manner of flies on a ceiling. The *real* observer would have uttered an instant ejaculation of surprise (however prepared by previous knowledge) at the singularity of their position; the *fictitious* observer has not even mentioned the subject, but speaks of seeing the entire bodies of such creatures, when it is demonstratable that he could have seen only the diameter of their heads!

It might as well be remarked, in conclusion, that the size, and particularly the powers of the man-bats (for example, their ability to fly in so rare an atmosphere—if, indeed, the moon have any), with most of the other fancies in regard to animal and vegetable existence, are at variance, generally, with all analogical reasoning on these themes; and that analogy here will often amount to conclusive demonstration. It is, perhaps, scarcely necessary to add, that all the suggestions attributed to Brewster and Herschel, in the beginning of the article, about "a transfusion of artificial light through the focal object of vision," etc., etc., belong to that species of

figurative writing which comes, most properly, under the denomination of rigmarole.

There is a real and very definite limit to optical discovery among the stars—a limit whose nature need only be stated to be understood. If, indeed, the casting of large lenses were all that is required, man's ingenuity would ultimately prove equal to the task, and we might have them of any size demanded. But, unhappily, in proportion to the increase of size in the lens, and consequently, of space-penetrating power, is the diminution of light from the object, by diffusion of its rays. And for this evil there is no remedy within human ability; for an object is seen by means of that light alone which proceeds from itself, whether direct or reflected. Thus the only "*artificial*" light which could avail Mr. Locke, would be some artificial light which he should be able to throw—not upon the "focal object of vision," but upon the real object to be viewed—to wit: *upon the moon.* It has been easily calculated that, when the light proceeding from a star becomes so diffused as to be as weak as the natural light proceeding from the whole of the stars, in a clear and moonless night, then the star is no longer visible for any practical purpose.

The Earl of Ross telescope, lately constructed in England, has a *speculum* with a reflecting surface of 4071 square inches; the Herschel telescope having one of only 1811. The metal of the Earl of Ross' is 6 feet diameter; it is 5½ inches thick at the edges, and 5 at the centre. The weight is 3 tons. The focal length is 50 feet.

I have lately read a singular and somewhat ingenious little book, whose title-page runs thus:—"L'Homme dans la lvne, ou le Voyage Chimerique fait au Monde de la Lvne, nouuellement decouuert par Dominique Gonzales, Aduanturier Espagnol, autremèt dit le Courier volant. Mis en notre langve par J. B. D. A. Paris, chez Francois Piot, pres la Fontaine de Saint Benoist. Et chez J. Goignard, au premier pilier de la grand' salle du Palais, proche les Consultations, MDCXLVIII." Pp. 176.

The writer professes to have translated his work from the English of one Mr. D'Avisson (Davidson?) although there is a terrible ambiguity in the statement. "I'en ai eu," says he, "l'original de Monsieur D'Avisson, medecin des mieux versez qui soient aujourd'huy dans la cõnoissance des Belles Lettres, et sur tout de la Philosophie Naturelle. Je lui ai cette obligation entre les autres, de m'auoir non seulement mis en main ce Livre en anglois, mais encore le Manuscrit du Sieur Thomas D'Anan, gentilhomme Eccossois, recommandable pour sa vertu, sur la version duquel j'advoue que j'ay tiré le plan de la mienne."

After some irrelevant adventures, much in the manner of Gil Blas, and which occupy the first thirty pages, the author relates that, being ill during a sea voyage, the crew abandoned him, together with a negro servant, on the island of St. Helena. To increase the chances of obtaining food, the two separate, and live as far apart as possible. This brings about a training of birds, to serve the purpose of carrier-pigeons between them.

By and by these are taught to carry parcels of some weight—and this weight is gradually increased. At length the idea is entertained of uniting the force of a great number of the birds, with a view to raising the author himself. A machine is contrived for the purpose, and we have a minute description of it, which is materially helped out by a steel engraving. Here we perceive the signor Gonzales, with point ruffles and a huge periwig, seated astride something which resembles very closely a broomstick, and borne aloft by a multitude of wild swans (*ganzas*) who had strings reaching from their tails to the machine.

The main event detailed in the Signor's narrative depends upon a very important fact, of which the reader is kept in ignorance until near the end of the book. The *ganzas*, with whom he had become so familiar, were not really denizens of St. Helena, but of the moon. Thence it had been their custom, time out of mind, to migrate annually to some portion of the earth. In proper season, of course, they would return home; and the author, happening, one day, to require their services for a short voyage, is unexpectedly carried straight up, and in a very brief period arrives at the satellite. Here he finds, among other odd things, that the people enjoy extreme happiness; that they have no *law;* that they die without pain; that they are from ten to thirty feet in height; that they live five thousand years; that they have an emperor called Irdonozur; and that they can jump sixty feet high, when, being out of the gravitating influence, they fly about with fans.

I cannot forbear giving a specimen of the general *philosophy* of the volume.

"I must now declare to you," says the Signor Gonzales, "the nature of the place in which I found myself. All the clouds were beneath my feet, or, if you please, spread between me and the earth. As to the stars, *since there was no night where I was, they always had the same appearance; not brilliant, as usual, but pale, and very nearly like the moon of a morning.* But few of them were visible, and these ten times larger (as well as I could judge) than they seem to the inhabitants of the earth. The moon, which wanted two days of being full, was of a terrible bigness.

"I must not forget here, that the stars appeared only on that side of the globe turned toward the moon, and that the closer they were to it the larger they seemed. I have also to inform you that, whether it was calm weather or stormy, I found myself *always immediately between the moon and the earth.* I was convinced of this for two reasons—because my birds always flew in a straight line; and because whenever we attempted to rest, *we were carried insensibly around the globe of the earth.* For I admit the opinion of Copernicus, who maintains that it never ceases to revolve *from the east to the west,* not upon the poles of the Equinoctial, commonly called the poles of the world, but upon those of the Zodiac, a question of which I propose to speak more at length hereafter, when I shall have leisure to refresh my memory in

regard to the astrology which I learned at Salamanca when young, and have since forgotten."

Notwithstanding the blunders italicized, the book is not without some claim to attention, as affording a naïve specimen of the current astronomical notions of the time. One of these assumed, that the "gravitating power" extended but a short distance from the earth's surface, and, accordingly, we find our voyager "carried insensibly around the globe," etc.

There have been other "voyages to the moon," but none of higher merit than the one just mentioned. That of Bergerac is utterly meaningless. In the third volume of the *American Quarterly Review* will be found quite an elaborate criticism upon a certain "Journey" of the kind in questilon;—a criticism in which it is difficult to say whether the critic most exposes the stupidity of the book, or his own absurd ignorance of astronomy. I forget the title of the work; but the *means* of the voyage are more deplorably ill conceived than are even the *ganzas* of our friend the Signor Gonzales. The adventurer, in digging the earth, happens to discover a peculiar metal for which the moon has a strong attraction, and straightway constructs of it a box, which, when cast loose from its terrestrial fastenings, flies with him, forthwith, to the satellite. The "Flight of Thomas O'Rourke," is a *jeu d'esprit* not altogether contemptible, and has been translated into German. Thomas, the hero, was, in fact, the game-keeper of an Irish peer, whose eccentricities gave rise to the tale. The "flight" is made on an eagle's back, from Hungry Hill, a lofty mountain at the end of Bantry Bay.

In these various *brochures* the aim is always satirical; the theme being a description of Lunarian customs as compared with ours. In none is there any effort at *plausibility* in the details of the voyage itself. The writers seem, in each instance, to be utterly uninformed in respect to astronomy. In "Hans Pfaall" the design is original, inasmuch as regards an attempt at *verisimilitude*, in the application of scientific principles (so far as the whimsical nature of the subject would permit), to the actual passage between the earth and the moon.

THE BALLOON-HOAX

[Published in the *New York Sun*, April 13, 1844.]

[Astounding News by Express, *via* Norfolk!—The Atlantic Crossed in Three Days! Signal Triumph of Mr. Monck Mason's Flying Machine!—Arrival at Sullivan's Island, near Charleston, S. C., of Mr. Mason, Mr. Robert Holland, Mr. Henson, Mr. Harrison Ainsworth, and four others, in the Steering Balloon, "Victoria," after a Passage of Seventy-five Hours from Land to Land! Full Particulars of the Voyage!

The subjoined *jeu d'esprit* with the preceding heading in magnificent capitals, well interspersed with notes of admiration, was originally published, as matter of fact, in the *New-York Sun*, a daily newspaper, and therein fully subserved the purpose of creating indigestible aliment for the *quidnuncs* during the few hours intervening between a couple of the Charleston mails. The rush for the "sole paper which had the news," was something beyond even the prodigious; and, in fact, if (as some assert) the "Victoria" *did* not absolutely accomplish the voyage recorded, it will be difficult to assign a reason why she *should* not have accomplished it.]

THE great problem is at length solved! The air, as well as the earth and the ocean, has been subdued by science, and will become a common and convenient highway for mankind. *The Atlantic has been actually crossed in a Balloon!* and this too without difficulty—without any great apparent danger—with thorough control of the machine—and in the inconceivably brief period of seventy-five hours from shore to shore! By the energy of an agent at Charleston, S. C., we are enabled to be the first to furnish the public with a detailed account of this most extraordinary voyage, which was performed between

Saturday, the 6th instant, at 11 A. M. and 2 P. M., on Tuesday, the 9th instant, by Sir Everard Bringhurst; Mr. Osborne, a nephew of Lord Bentinck's; Mr. Monck Mason and Mr. Robert Holland, the well-known aëronauts; Mr. Harrison Ainsworth, author of "Jack Sheppard," etc.; and Mr. Henson, the projector of the late unsuccessful flying machine—with two seamen from Woolwich—in all, eight persons. The particulars furnished below may be relied on as authentic and accurate in every respect, as, with a slight exception, they are copied *verbatim* from the joint diaries of Mr. Monck Mason and Mr. Harrison Ainsworth, to whose politeness our agent is also indebted for much verbal information respecting the balloon itself, its construction and other matters of interest. The only alteration in the MS. received, has been made for the purpose of throwing the hurried account of our agent, Mr. Forsyth, into a connected and intelligible form.

"THE BALLOON

"Two very decided failures, of late,—those of Mr. Henson and Sir George Cayley,—had much weakened the public interest in the subject of aërial navigation. Mr. Henson's scheme (which at first was considered very feasible even by men of science) was founded upon the principle of an inclined plane, started from an eminence by an extrinsic force, applied and continued by the revolution of impinging vanes, in form and

number resembling the vanes of a windmill. But, in all the experiments made with models at the Adelaide Gallery, it was found that the operation of these fans not only did not propel the machine, but actually impeded its flight. The only propelling force it ever exhibited, was the mere *impetus* acquired from the descent of the inclined plane; and this *impetus* carried the machine farther when the vanes were at rest, than when they were in motion—a fact which sufficiently demonstrates their inutility; and in the absence of the propelling, which was also the *sustaining,* power, the whole fabric would necessarily descend. This consideration led Sir George Cayley to think only of adapting a propeller to some machine having of itself an independent power of support—in a word, to a balloon; the idea, however, being novel, or original, with Sir George, only so far as regards the mode of its application to practice. He exhibited a model of his invention at the Polytechnic Institution. The propelling principle, or power, was here, also, applied to interrupted surfaces, or vanes, put in revolution. These vanes were four in number, but were found entirely ineffectual in moving the balloon, or in aiding its ascending power. The whole project was thus a complete failure.

"It was at this juncture that Mr. Monck Mason (whose voyage from Dover to Weilburg in the balloon, 'Nassau,' occasioned so much excitement in 1837) conceived the idea of employing the principle of the Archimedean screw for

the purpose of propulsion through the air—rightly attributing the failure of Mr. Henson's scheme, and of Sir George Cayley's, to the interruption of surface in the independent vanes. He made the first public experiment at Willis's Rooms, but afterward removed his model to the Adelaide Gallery.

"Like Sir George Cayley's balloon, his own was an ellipsoid. Its length was thirteen feet six inches—height, six feet eight inches. It contained about three hundred and twenty cubic feet of gas, which, if pure hydrogen, would support twenty-one pounds upon its first inflation, before the gas has time to deteriorate or escape. The weight of the whole machine and apparatus was seventeen pounds—leaving about four pounds to spare. Beneath the centre of the balloon, was a frame of light wood, about nine feet long, and rigged on to the balloon itself with a network in the customary manner. From this framework was suspended a wicker basket or car.

"The screw consists of an axis of hollow brass tube, eighteen inches in length, through which, upon a semi-spiral inclined at fifteen degrees, pass a series of steel-wire radii, two feet long, and thus projecting a foot on either side. These radii are connected at the outer extremities by two bands of flattened wire—the whole in this manner forming the framework of the screw, which is completed by a covering of oiled silk cut into gores, and tightened so as to present a tolerably uniform surface. At each end of its axis this screw is supported by pillars of hollow brass

tube descending from the hoop. In the lower ends of these tubes are holes in which the pivots of the axis revolve. From the end of the axis which is next the car, proceeds a shaft of steel, connecting the screw with the pinion of a piece of spring machinery fixed in the car. By the operation of this spring, the screw is made to revolve with great rapidity, communicating a progressive motion to the whole. By means of the rudder, the machine was readily turned in any direction. The spring was of great power, compared with its dimensions, being capable of raising forty-five pounds upon a barrel of four inches diameter, after the first turn, and gradually increasing as it was wound up. It weighed, altogether, eight pounds six ounces. The rudder was a light frame of cane covered with silk, shaped somewhat like a battledoor, and was about three feet long, and at the widest, one foot. Its weight was about two ounces. It could be turned *flat,* and directed upward or downward, as well as to the right or left; and thus enabled the aëronaut to transfer the resistance of the air which in an inclined position it must generate in its passage, to any side upon which he might desire to act; thus determining the balloon in the opposite direction.

"This model (which, through want of time, we have necessarily described in an imperfect manner) was put in action at the Adelaide Gallery, where it accomplished a velocity of five miles per hour; although, strange to say, it excited very little interest in comparison with the

previous complex machine of Mr. Henson—so resolute is the world to despise any thing which carries with it an air of simplicity. To accomplish the great desideratum of aërial navigation, it was very generally supposed that some exceedingly complicated application must be made of some unusually profound principle in dynamics.

"So well satisfied, however, was Mr. Mason of the ultimate success of his invention, that he determined to construct immediately, if possible, a balloon of sufficient capacity to test the question by a voyage of some extent—the original design being to cross the British Channel, as before, in the Nassau balloon. To carry out his views, he solicited and obtained the patronage of Sir Everard Bringhurst and Mr. Osborne, two gentlemen well known for scientific acquirement, and especially for the interest they have exhibited in the progress of aërostation. The project, at the desire of Mr. Osborne, was kept a profound secret from the public—the only persons entrusted with the design being those actually engaged in the construction of the machine, which was built (under the superintendence of Mr. Mason, Mr. Holland, Sir Everard Bringhurst, and Mr. Osborne) at the seat of the latter gentleman near Penstruthal, in Wales. Mr. Henson, accompanied by his friend Mr. Ainsworth, was admitted to a private view of the balloon, on Saturday last—when the two gentlemen made final arrangements to be included in the adventure. We are not informed for what reason the two seamen were also included in the party—but, in the

course of a day or two, we shall put our readers in possession of the minutest particulars respecting this extraordinary voyage.

"The balloon is composed of silk, varnished with the liquid gum caoutchouc. It is of vast dimensions, containing more than 40,000 cubic feet of gas; but as coal-gas was employed in place of the more expensive and inconvenient hydrogen, the supporting power of the machine, when fully inflated, and immediately after inflation, is not more than about 2500 pounds. The coal-gas is not only much less costly, but is easily procured and managed.

"For its introduction into common use for purposes of aërostation, we are indebted to Mr. Charles Green. Up to his discovery, the process of inflation was not only exceedingly expensive, but uncertain. Two and even three days have frequently been wasted in futile attempts to procure a sufficiency of hydrogen to fill a balloon, from which it had great tendency to escape, owing to its extreme subtlety, and its affinity for the surrounding atmosphere. In a balloon sufficiently perfect to retain its contents of coal-gas unaltered, in quantity or amount, for six months, an equal quantity of hydrogen could not be maintained in equal purity for six weeks.

"The supporting power being estimated at 2500 pounds, and the united weights of the party amounting only to about 1200, there was left a surplus of 1300, of which again 1200 was exhausted by ballast, arranged in bags of different sizes, with their respective weights marked upon them

—by cordage, barometers, telescopes, barrels containing provisions for a fortnight, water-casks, cloaks, carpet-bags, and various other indispensable matters, including a coffee-warmer, contrived for warming coffee by means of slack-lime, so as to dispense altogether with fire, if it should be judged prudent to do so. All these articles, with the exception of the ballast, and a few trifles, were suspended from the hoop overhead. The car is much smaller and lighter, in proportion, than the one appended to the model. It is formed of a light wicker, and is wonderfully strong, for so frail-looking a machine. Its rim is about four feet deep. The rudder is also very much larger, in proportion, than that of the model ; and the screw is considerably smaller. The balloon is furnished besides with a grapnel, and a guide rope; which latter is of the most indispensable importance. A few words, in explanation, will here be necessary for such of our readers as are not conversant with the details of aërostation.

"As soon as the balloon quits the earth, it is subjected to the influence of many circumstances tending to create a difference in its weight; augmenting or diminishing its ascending power. For example, there may be a deposition of dew upon the silk, to the extent, even, of several hundred pounds; ballast has then to be thrown out, or the machine may descend. This ballast being discarded, and a clear sunshine evaporating the dew, and at the same time expanding the gas in the silk, the whole will again rapidly ascend. To

check this ascent, the only resource is (or rather *was*, until Mr. Green's invention of the guide rope) the permission of the escape of gas from the valve; but, in the loss of gas, is a proportionate general loss of ascending power; so that, in a comparatively brief period, the best-constructed balloon must necessarily exhaust all its resources, and some to the earth. This was the great obstacle to voyages of length.

"The guide-rope remedies the difficulty in the simplest manner conceivable. It is merely a very long rope which is suffered to trail from the car, and the effect of which is to prevent the balloon from changing its level in any material degree. If, for example, there should be a deposition of moisture upon the silk, and the machine begins to descend in consequence, there will be no necessity of discharging ballast to remedy the increase of weight, for it is remedied, or counteracted, in an exactly just proportion, by the deposit on the ground of just so much of the end of the rope as is necessary. If, on the other hand, any circumstances should cause undue levity, and consequent ascent, this levity is immediately counteracted by the additional weight of rope upraised from the earth. Thus, the balloon can neither ascend nor descend, except within very narrow limits, and its resources, either in gas or ballast, remain comparatively unimpaired. When passing over an expanse of water, it becomes necessary to employ small kegs of copper or wood, filled with liquid ballast of a lighter nature than water. These float, and serve all the pur-

poses of a mere rope on land. Another most important office of the guide-rope, is to point out the *direction* of the balloon. The rope *drags,* either on land or sea, while the balloon is free; the latter, consequently, is always in advance, when any progress whatever is made: a comparison, therefore, by means of the compass, of the relative positions of the two objects, will always indicate the *course.* In the same way, the angle formed by the rope with the vertical axis of the machine, indicates the *velocity.* When there is *no* angle—in other words, when the rope hangs perpendicularly, the whole apparatus is stationary; but the larger the angle, that is to say, the farther the balloon precedes the end of the rope, the greater the velocity; and the converse.

"As the original design was to cross the British Channel and alight as near Paris as possible, the voyagers had taken the precaution to prepare themselves with passports directed to all parts of the Continent, specifying the nature of the expedition, as in the case of the Nassau voyage, and entitling the adventurers to exemption from the usual formalities of office; unexpected events, however, rendered these passports superfluous.

"The inflation was commenced very quietly at day-break, on Saturday morning, the 6th instant, in the court-yard of Weal-Vor House, Mr. Osborne's seat, about a mile from Penstruthal, in North Wales; and at seven minutes past eleven, every thing being ready for departure, the balloon was set free, rising gently but stead-

ily, in a direction nearly south; no use being made, for the first half hour, of either the screw or the rudder. We proceed now with the journal, as transcribed by Mr. Forsyth from the joint MSS. of Mr. Monck Mason and Mr. Ainsworth. The body of the journal, as given, is in the handwriting of Mr. Mason, and a P. S. is appended each day, by Mr. Ainsworth, who has in preparation, and will shortly give the public a more minute and, no doubt, a thrillingly interesting account of the voyage.

"THE JOURNAL.

"*Saturday, April the 6th.*—Every preparation likely to embarrass us having been made overnight, we commenced the inflation this morning at daybreak; but owing to a thick fog, which encumbered the folds of the silk and rendered it unmanageable, we did not get through before nearly eleven o'clock. Cut loose, then, in high spirits, and rose gently but steadily with a light breeze at north, which bore us in the direction of the British Channel. Found the ascending force greater than we had expected; and as we arose higher and so got clear of the cliffs, and more in the sun's rays, our ascent became very rapid. I did not wish, however, to lose gas at so early a period of the adventure, and so concluded to ascend for the present. We soon ran out our guide-rope; but even when we had raised it clear of the earth, we still went up very rapidly. The balloon was

unusually steady, and looked beautifully. In about ten minutes after starting, the barometer indicated an altitude of 15,000 feet. The weather was remarkably fine, and the view of the subjacent country—a most romantic one when seen from any point—was now especially sublime. The numerous deep gorges presented the appearance of lakes, on account of the dense vapors with which they were filled, and the pinnacles and crags to the south east, piled in inextricable confusion, resembled nothing so much as the giant cities of Eastern fable. We were rapidly approaching the mountains in the south, but our elevation was more than sufficient to enable us to pass them in safety. In a few minutes we soared over them in fine style; and Mr. Ainsworth, with the seamen, was surprised at their apparent want of altitude when viewed from the car, the tendency of great elevation in a balloon being to reduce inequalities of the surface below, to nearly a dead level. At half-past eleven still proceeding nearly south, we obtained our first view of the Bristol Channel; and, in fifteen minutes afterwards, the line of breakers on the coast appeared immediately beneath us, and we were fairly out at sea. We now resolved to let off enough gas to bring our guide-rope, with the buoys affixed, into the water. This was immediately done, and we commenced a gradual descent. In about twenty minutes our first buoy dipped, and at the touch of the second soon afterward, we remained stationary as to elevation. We were

all now anxious to test the effieiency of the rudder and screw, and we put them both into requisition forthwith, for the purpose of altering our direction more to the eastward, and in a line for Paris. By means of the rudder we instantly effected the necessary change of direction, and our course was brought nearly at right angles to that of the wind; when we set in motion the spring of the screw, and were rejoiced to find it propel us readily as desired. Upon this we gave nine hearty cheers, and dropped in the sea a bottle, inclosing a slip of parchment with a brief account of the principle of the invention. Hardly, however, had we done with our rejoicings, when an unforeseen accident occurred which discouraged us in no little degree. The steel rod connecting the spring with the propeller was suddenly jerked out of place at the car end, (by a swaying of the car through some movement of one of the two seamen we had taken up), and in an instant hung dangling out of reach, from the pivot of the axis of the screw. While we were endeavoring to regain it, our attention being completely absorbed, we became involved in a strong current of wind from the east, which bore us, with rapidly increasing force, toward the Atlantic. We soon found ourselves driving out to sea at the rate of not less, certainly, than fifty or sixty miles an hour, so that we came up with Cape Clear, at some forty miles to the north, before we had secured the rod, and had time to think what we were about. It was now that Mr.

Ainsworth made an extraordinary but, to my fancy, a by no means unreasonable or chimerical proposition, in which he was instantly seconded by Mr. Holland—viz.; that we should take advantage of the strong gale which bore us on, and in place of beating back to Paris, make an attempt to reach the coast of North America. After slight reflection, I gave a willing assent to this bold proposition, which (strange to say) met with objection from the two seamen only. As the stronger party, however, we overruled their fears, and kept resolutely upon our course. We steered due west; but as the trailing of the buoys materially impeded our progress, and we had the balloon abundantly at command, either for ascent or descent, we first threw out fifty pounds of ballast, and then wound up (by means of a windlass) so much of the rope as brought it quite clear of the sea. We perceived the effect of this manœuvre immediately, in a vastly increased rate of progress; and, as the gale freshened, we flew with a velocity nearly inconceivable; the guide-rope flying out behind the car, like a streamer from a vessel. It is needless to say that a very short time sufficed us to lose sight of the coast. We passed over innumerable vessels of all kinds, a few of which were endeavoring to beat up, but the most of them lying to. We occasioned the greatest excitement on board all—an excitement greatly relished by ourselves, and especially by our two men, who, now under the influence of a dram of Geneva, seemed resolved to give all

scruple, or fear, to the wind. Many of the vessels fired signal guns; and in all we were saluted with loud cheers (which we heard with surprising distinctness) and the waving of caps and handkerchiefs. We kept on in this manner throughout the day with no material incident, and, as the shades of night closed around us, we made a rough estimate of the distance traversed. It could not have been less than five hundred miles, and was probably much more. The propeller was kept in constant operation, and, no doubt, aided our progress materially. As the sun went down, the gale freshened into an absolute hurricane, and the ocean beneath was clearly visible on account of its phosphorescence. The wind was from the east all night, and gave us the brightest omen of success. We suffered no little from the cold, and the dampness of the atmosphere was most unpleasant; but the ample space in the car enabled us to lie down, and by means of cloaks and a few blankets we did sufficiently well.

"P. S. [by Mr. Ainsworth.] The last nine hours have been unquestionably the most exciting of my life. I can conceive nothing more sublimating than the strange peril and novelty of an adventure such as this. May God grant that we succeed! I ask not success for mere safety to my insignificant person, but for the sake of human knowledge and—for the vastness of the triumph. And yet the feat is only so evidently feasible that the sole wonder is why men have scrupled to attempt it before. One

single gale such as now befriends us—let such a tempest whirl forward a balloon for four or five days (these gales often last longer) and the voyager will be easily borne, in that period, from coast to coast. In view of such a gale the broad Atlantic becomes a mere lake. I am more struck, just now, with the supreme silence which reigns in the sea beneath us, notwithstanding its agitation, than with any other phenomenon presenting itself. The waters give up no voice to the heavens. The immense flaming ocean writhes and is tortured uncomplainingly. The mountainous surges suggest the idea of innumerable dumb gigantic fiends struggling in impotent agony. In a night such as is this to me, a man *lives*—lives a whole century of ordinary life—nor would I forego this rapturous delight for that of a whole century of ordinary existence.

"*Sunday, the 7th.* [Mr. Mason's MS.] This morning the gale, by ten, had subsided to an eight- or nine-knot breeze (for a vessel at sea), and bears us, perhaps, thirty miles per hour, or more. It has veered, however, very considerably to the north; and now, at sundown, we are holding our course due west, principally by the screw and rudder, which answer their purposes to admiration. I regard the project as thoroughly successful, and the easy navigation of the air in any direction (not exactly in the teeth of a gale) as no longer problematical. We could not have made head against the strong wind of yesterday; but, by ascending, we might

have got out of its influence, if requisite. Against a pretty stiff breeze, I feel convinced, we can make our way with the propeller. At noon, to-day, ascended to an elevation of nearly 25,000 feet, by discharging ballast. Did this to search for a more direct current, but found none so favorable as the one we are now in. We have an abundance of gas to take us across this small pond, even should the voyage last three weeks. I have not the slightest fear for the result. The difficulty has been strangely exaggerated and misapprehended. I can choose my current, and should I find *all* currents against me, I can make very tolerable headway with the propeller. We have had no incidents worth recording. The night promises fair.

"P. S. [By Mr. Ainsworth.] I have little to record, except the fact (to me quite a surprising one) that, at an elevation equal to that of Cotopaxi, I experienced neither very intense cold, nor headache, nor difficulty of breathing; neither, I find, did Mr. Mason, nor Mr. Holland, nor Sir Everard. Mr. Osborne complained of constriction of the chest—but this soon wore off. We have flown at a great rate during the day, and we must be more than half way across the Atlantic. We have passed over some twenty or thirty vessels of various kinds, and all seem to be delightfully astonished. Crossing the ocean in a balloon is not so difficult a feat after all. *Omne ignotum pro magnifico. Mem.*: at 25,000 feet elevation the sky appears nearly black, and the stars are dis-

tinctly visible; while the sea does not seem convex (as one might suppose) but absolutely and most unequivocally *concave*.*

"Monday, the 8th. [Mr. Mason's MS.] This morning we had again some little trouble with the rod of the propeller, which must be entirely remodelled, for fear of serious accident—I mean the steel rod, not the vanes. The latter could not be improved. The wind has been blowing steadily and strongly from the northeast all day; and so far fortune seems bent upon favoring us. Just before day, we were all somewhat alarmed at some odd noises and concussions in the balloon, accompanied with the apparent rapid subsidence of the whole machine. These phenomena were occasioned by the expansion of the gas, through increase of heat in the atmosphere, and the consequent disruption of the minute particles of ice with which the network had become encrusted during the night.

* "*Note.*—Mr. Ainsworth has not attempted to account for this phenomenon, which, however, is quite susceptible of explanation. A line dropped from an elevation of 25,000 feet, perpendicularly to the surface of the earth (or sea), would form the perpendicular of a right-angled triangle, of which the base would extend from the right angle to the horizon, and the hypothenuse from the horizon to the balloon. But the 25,000 feet of altitude is little or nothing, in comparison with the extent of the prospect. In other words, the base and hypothenuse of the supposed triangle would be so long, when compared with the perpendicular, that the two former may be regarded as nearly parallel. In this manner the horizon of the aëronaut would appear to be *on a level* with the car. But, as the point immediately beneath him seems, and is, at a great distance below him, it seems, of course, also, at a great distance below the horizon. Hence the impression of *concavity*; and this impression must remain, until the elevation shall bear so great a proportion to the extent of prospect, that the apparent parallelism of the base and hypothenuse disappears —when the earth's real convexity must become apparent.

Threw down several bottles to the vessels below. Saw one of them picked up by a large ship—seemingly one of the New York line packets. Endeavored to make out her name, but could not be sure of it. Mr. Osborne's telescope made it out something like 'Atalanta.' It is now twelve at night, and we are still going nearly west, at a rapid pace. The sea is peculiarly phosphorescent.

"P. S. [By Mr. Ainsworth.] It is now two A. M., and nearly calm, as well as I can judge —but it is very difficult to determine this point, since we move *with* the air so completely. I have not slept since quitting Wheal-Vor, but can stand it no longer, and must take a nap. We cannot be far from the American coast.

"*Tuesday, the 9th.* [Mr. Ainsworth's MS.] *One, P. M. We are in full view of the low coast of South Carolina.* The great problem is accomplished. We have crossed the Atlantic—fairly and *easily* crossed it in a balloon! God be praised! Who shall say that any thing is impossible hereafter?"

The Journal here ceases. Some particulars of the descent were communicated, however, by Mr. Ainsworth to Mr. Forsyth. It was nearly dead calm when the voyagers first came in view of the coast, which was immediately recognized by both the seamen, and by Mr. Osborne. The latter gentleman having acquaintances at Fort Moultrie, it was immediately resolved to descend in its vicinity. The balloon was brought

over the beach (the tide being out and the sand hard, smooth, and admirably adapted for a descent), and the grapnel let go, which took firm hold at once. The inhabitants of the island, and of the fort, thronged out, of course, to see the balloon; but it was with the greatest difficulty that any one could be made to credit the actual voyage—*the crossing of the Atlantic.* The grapnel caught at two P. M. precisely; and thus the whole voyage was completed in seventy-five hours; or rather less, counting from shore to shore. No serious accident occurred. No real danger was at any time apprehended. The balloon was exhausted and secured without trouble; and when the MS. from which this narrative is compiled was despatched from Charleston, the party were still at Fort Moultrie. Their further intentions were not ascertained; but we can safely promise our readers some additional information either on Monday or in the course of the next day, at furthest.

This is unquestionably the most stupendous, the most interesting, and the most important undertaking ever accomplished or even attempted by man. What magnificent events may ensue, it would be useless now to think of determining.

MELLONTA TAUTA*

[Published in *Godey's Lady's Book*, February, 1849.]

On Board Balloon "Skylark."
April 1, 2848.

Now, my dear friend—now, for your sins, you are to suffer the infliction of a long gossiping letter. I tell you distinctly that I am going to punish you for all your impertinences by being as tedious, as discursive, as incoherent, and as unsatisfactory as possible. Besides, here I am, cooped up in a dirty balloon, with some one or two hundred of the *canaille*, all bound on a *pleasure* excursion, (what a funny idea some people have of pleasure!) and I have no prospect of touching *terra firma* for a month at least. Nobody to talk to. Nothing to do. When one has nothing to do, then is the time to correspond with one's friends. You perceive, then, why it is that I write you this letter—it is on account of my *ennui* and your sins.

Get ready your spectacles and make up your

*A quotation from the "Antigone" of Sophocles, meaning, "These things are of the future." It is a favorite with Poe—cf. "Eureka," and "The Colloquy of Monos and Una," vol. IX., present edition. The tale, considered as a philosophical fantasy, bears close relation to "Eureka."—Editor.

mind to be annoyed. I mean to write at you every day during this odious voyage.

Heigho! when will any *Invention* visit the human pericranium? Are we forever to be doomed to the thousand inconveniences of the balloon? Will *nobody* contrive a more expeditious mode of progress? The jog-trot movement, to my thinking, is little less than positive torture. Upon my word we have not made more than a hundred miles an hour since leaving home! The very birds beat us—at least some of them. I assure you that I do not exaggerate at all. Our motion, no doubt, seems slower that it actually is —this on account of our having no objects about us by which to estimate our velocity, and on account of our going with the wind. To be sure, whenever we meet a balloon we have a chance of perceiving our rate, and then, I admit, things do not appear so very bad. Accustomed as I am to this mode of travelling, I cannot get over a kind of giddiness whenever a balloon passes us in a current directly overhead. It always seems to me like an immense bird of prey about to pounce upon us and carry us off in its claws. One went over us this morning about sunrise, and so nearly overhead that its drag-rope actually brushed the net-work suspending our car, and caused us very serious apprehension. Our captain said that if the material of the bag had been the trumpery varnished "silk" of five hundred or a thousand years ago, we should inevitably have been damaged. This silk, as he explained it to me, was a fabric composed of the entrails of a species of

earth-worm. The worm was carefully fed on mulberries—a kind of fruit resembling a watermelon—and, when sufficiently fat, was crushed in a mill. The paste thus arising was called *papyrus* in its primary state, and went through a variety of processes until it finally became "silk." Singular to relate, it was once much admired as an article of *female dress!* Balloons were also very generally constructed from it. A better kind of material, it appears, was subsequently found in the down surrounding the seed-vessels of a plant vulgarly called *euphorbium,* and at that time botanically termed milk-weed. This latter kind of silk was designated as silk-buckingham, on account of its superior durability, and was usually prepared for use by being varnished with a solution of gum caoutchouc—a substance which in some respects must have resembled the *gutta percha* now in common use. This caoutchouc was occasionally called Indian rubber or rubber of whist, and was no doubt one of the numerous *fungi.* Never tell me again that I am not at heart an antiquarian.

Talking of drag-ropes—our own, it seems, has this moment knocked a man overboard from one of the small magnetic propellers that swarm in ocean below us—a boat of about six thousand tons, and, from all accounts, shamefully crowded. These diminutive barques should be prohibited from carrying more than a definite number of passengers. The man, of course, was not permitted to get on board again, and was soon out of sight, he and his life-preserver. I rejoice, my

dear friend, that we live in an age so enlightened that no such thing as an individual is supposed to exist. It is the mass for which the true Humanity cares. By-the-by, talking of Humanity, do you know that our immortal Wiggins is not so original in his views of the Social Condition and so forth, as his contemporaries are inclined to suppose? Pundit assures me that the same ideas were put nearly in the same way, about a thousand years ago, by an Irish philosopher called Furrier, on account of his keeping a retail shop for cat peltries and other furs. Pundit *knows,* you know; there can be no mistake about it. How very wonderfully do we see verified every day, the profound observation of the Hindoo Aries Tottle (as quoted by Pundit)—"Thus must we say that, not once or twice, or a few times, but with almost infinite repetitions, the same opinions come round in a circle among men."

April 2d.—Spoke to-day the magnetic cutter in charge of the middle section of floating telegraph wires. I learn that when this species of telegraph was first put into operation by Horse, it was considered quite impossible to convey the wires over sea; but now we are at a loss to comprehend where the difficulty lay! So wags the world. *Tempora mutantur*—excuse me for quoting the Etruscan. What *would* we do without the Atalantic telegraph? (Pundit says Atlantic was the ancient adjective.) We lay to a few minutes to ask the cutter some questions, and learned, among other glorious news, that civil

war is raging in Africa, while the plague is doing its good work beautifully both in Yurope and Ayesher. Is it not truly remarkable that, before the magnificent light shed upon philosophy by Humanity, the world was accustomed to regard War and Pestilence as calamities? Do you know that prayers were actually offered up in the ancient temples to the end that these *evils* (!) might not be visited upon mankind? Is it not really difficult to comprehend upon what principle or interest our forefathers acted? Were they so blind as not to perceive that the destruction of a myriad of individuals is only so much positive advantage to the mass!

April 3d.—It is really a very fine amusement to ascend the rope-ladder leading to the summit of the balloon-bag, and thence survey the surrounding world. From the car below you know the prospect is not so comprehensive—you can see little vertically. But seated here (where I write this) in the luxuriously-cushioned open piazza of the summit, one can see every thing that is going on in all directions. Just now there is quite a crowd of balloons in sight, and they represent a very animated appearance, while the air is resonant with the hum of so many millions of human voices. I have heard it asserted that when Yellow or (Pundit *will* have it) Violet, who is supposed to have been the first aeronaut, maintained the practicability of traversing the atmosphere in all directions, by merely ascending or descending until a favorable current was attained, he was scarcely hearkened to at all by his

contemporaries, who looked upon him as merely an ingenious sort of madman, because the philosophers (!) of the day declared the thing impossible. Really now it does seem to me *quite* unaccountable how any thing so obviously feasible could have escaped the sagacity of the ancient *savans*. But in all ages the great obstacles to advancement in Art have been opposed by the so-called men of science. To be sure, *our* men of science are not quite so bigoted as those of old:—oh, I have something *so* queer to tell you on this topic. Do you know that it is not more than a thousand years ago since the metaphysicians consented to relieve the people of the singular fancy that there existed but *two possible roads for the attainment of Truth!* Believe it if you can! It apears that long, long ago, in the night of Time, there lived a Turkish philosopher (or Hindoo possibly) called Aries Tottle. This person introduced, or at all events propagated what was termed the deductive or *à priori* mode of investigation. He started with what he maintained to be *axioms* or "self-evident truths," and thence proceeded "logically" to results. His greatest disciples were one Neuclid, and one Cant. Well, Aries Tottle flourished supreme until advent of one Hog, surnamed the "Ettrick Shepherd," who preached an entirely different system, which he called the *a posteriori* or *in*ductive. His plan referred altogether to Sensation. He proceeded by observing, analyzing, and classifying facts—*instantiae naturae,* as they were affectedly called—into general laws. Aries Tottle's mode, in a

word, was based on *noumena;* Hog's on *phenomena.* Well, so great was the admiration excited by this latter system that, at its first introduction, Aries Tottle fell into disrepute; but finally he recovered ground and was permitted to divide the realm of Truth with his more modern rival. The *savans* now maintained the Aristotelian and *Baconian* roads were the sole possible avenues to knowledge. "Baconian," you must know, was an adjective invented as equivalent to Hog-ian and more euphonious and dignified.

Now, my dear friend, I do assure you, most positively, that I represent this matter fairly, on the soundest authority; and you can easily understand how a notion so absurd on its very face must have operated to retard the progress of all true knowledge—which makes its advances almost invariably by intuitive bounds. The ancient idea confined investigations to *crawling;* and for hundreds of years so great was the infatuation about Hog especially, that a virtual end was put to all thinking, properly so called. No man dared utter a truth to which he felt himself indebted to his *Soul* alone. It mattered not whether the truth was even *demonstrably* a truth, for the bullet-headed *savans* of the time regarded only *the road* by which he had attained it. They would not even *look* at the end. "Let us see the means," they cried, "the means!" If, upon investigation of the means, it was found to come under neither the category Aries (that is to say Ram) nor under the category Hog, why then

the savans went no farther, but pronounced the "theorist" a fool, and would have nothing to do with him or his truth.

Now, it cannot be maintained, even, that by the crawling system the greatest amount of truth would be attained in any long series of ages, for the repression of *imagination* was an evil not to be compensated for by any superior *certainty* in the ancient modes of investigation. The error of these Jurmains, these Vrinch, these Inglitch, and these Amriccans (the latter, by the way, were our own immediate progenitors), was an error quite analogous with that of the wiseacre who fancies that he must necessarily see an object the better the more closely he holds it to his eyes. These people blinded themselves by details. When they proceeded Hoggishly, their "facts" were by no means always facts—a matter of little consequence had it not been for assuming that they *were* facts and must be facts because they appeared to be such. When they proceeded on the path of the Ram, their course was scarcely as straight as a ram's horn, for they *never had* an axiom which was an axiom at all. They must have been very blind not to see this, even in their own day; for even in their own day many of the long "established" axioms had been rejected. For example—"*Ex nihilo, nihil fit;*" "a body cannot act where it is not;" "there cannot exist antipodes;" "darkness cannot come out of light"—all these, and a dozen other similar propositions, formerly admitted without hesitation as axioms, were, even at the period of which

I speak, seen to be untenable. How absurd in these people, then, to persist in putting faith in "axioms" as immutable bases of Truth! But even out of the mouths of their soundest reasoners it is easy to demonstrate the futility, the impalpability of their axioms in general. Who *was* the soundest of their logicians? Let me see! I will go and ask Pundit and be back in a minute. * * * Ah, here we have it! Here is a book written nearly a thousand years ago and lately translated from the Inglitch—which, by the way, appears to have been the rudiment of the Amriccan. Pundit says it is decidedly the cleverest ancient work on its topic, Logic. The author (who was much thought of in his day) was one Miller, or Mill; and we find it recorded of him, as a point of some importance, that he had a mill-horse called Bentham. But let us glance at the treatise!

Ah!—"Ability or inability to conceive," says Mr. Mill, very properly, "is in no case to be received as a criterion of axiomatic truth." What *modern* in his senses would ever think of disputing this truism? The only wonder with us must be, how it happened that Mr. Mill conceived it necessary even to hint at any thing so obvious. So far good—but let us turn over another paper. What have we here?—"Contradictories cannot both be true—that is, cannot coexist in nature." Here Mr. Mill means, for example that a tree must be either a tree or not a tree—that it cannot be at the same time a tree and not a tree. Very well; but I ask him *why*.

His reply is this—and never pretends to be anything else than this—" Because it is impossible to conceive that contradictories can both be true." But this is no answer at all, by his own showing; for has he not just admitted as a truism that " ability or inability to conceive is *in no case* to be received as a criterion of axiomatic truth."

Now I do not complain of these ancients so much because their logic is, by their own showing, utterly baseless, worthless and fantastic altogether, as because of their pompous and imbecile proscription of all *other* roads of Truth, of all *other* means for its attainment than the two preposterous paths—the one of creeping and the one of crawling—to which they have dared to confine the Soul that loves nothing so well as to *soar*.

By the by, my dear friend, do you not think it would have puzzled these ancient dogmaticians to have determined by *which* of their two roads it was that the most important and most sublime of *all* their truths was, in effect, attained? I mean the truth of Gravitation. Newton owed it to Kepler. Kepler admitted that his three laws were *guessed at*—these three laws of all laws which led the great Inglitch mathematician to his principle, the basis of all physical principle—to go behind which we must enter the Kingdom of Metaphysics. Kepler guessed—that is to say *imagined*. He was essentially a " theorist " —that word now of so much sanctity, formerly an epithet of contempt. Would it not have puzzled these old moles too, to have explained by

which of the two " roads " a cryptographist unriddles a cryptograph of more than usual secrecy, or by which of the two roads Champollion directed mankind to those enduring and almost innumerable truths which resulted from his deciphering the Hieroglyphics.

One word more on this topic and I will be done boring you. Is it not *passing* strange that, with their eternal prattling about *roads* to Truth, these bigoted people missed what we now so clearly perceive to be the great highway—that of Consistency? Does it not seem singular how they should have failed to deduce from the works of God the vital fact that a perfect consistency *must* be an absolute truth! How plain has been our progress since the late announcement of this proposition! Investigation has been taken out of the hands of the ground-moles and given, as a task, to the true and only true thinkers, the men of ardent imagination. These latter *theorize.* Can you not fancy the shout of scorn with which my words would be received by our progenitors were it possible for them to be now looking over my shoulder? These men, I say, *theorize*; and their theories are simply corrected, reduced, systematized—cleared, little by little, of their dross of inconsistency—until, finally, a perfect consistency stands apparent which even the most stolid admit, because it *is* a consistency, to be an absolute and an unquestionable *truth.*

April 4th.—The new gas is doing wonders, in conjunction with the new improvement with gutta percha. How very safe, commodious, man-

ageable, and in every respect convenient are our modern balloons! Here is an immense one approaching us at the rate of at least a hundred and fifty miles an hour. It seems to be crowded with people—perhaps there are three or four hundred passengers—and yet it soars to an elevation of nearly a mile, looking down upon poor us with sovereign contempt. Still a hundred or even two hundred miles an hour is slow travelling after all. *Do* you remember our flight on the railroad across the Kanadaw continent?—fully three hundred miles the hour—*that* was travelling. Nothing to be seen, though—nothing to be done but flirt, feast and dance in the magnificent saloons. Do you remember what an odd sensation was experienced when, by chance, we caught a glimpse of external objects while the cars were in full flight? Every thing seemed unique—in one mass. For my part, I cannot say but that I preferred the travelling by the slow train of a hundred miles the hour. Here we were permitted to have glass windows—even to have them open—and something like a distinct view of the country was attainable. * * * Pundit says that *the route* for the great Kanadaw railroad must have been in some measure marked out about nine hundred years ago! In fact, he goes so far as to assert that actual traces of a road are still discernible—traces referable to a period quite as remote as that mentioned. The track, it appears, was *double* only; ours, you know, has twelve paths; and three or four new ones are in preparation. The ancient rails are

very slight, and placed so close together as to be, according to modern notions, quite frivolous, if not dangerous in the extreme. The present width of track—fifty feet—is considered, indeed, scarcely secure enough. For my part, I make no doubt that a track of some sort *must* have existed in very remote times, as Pundit asserts; for nothing can be clearer, to my mind, than that, at some period—not less than seven centuries ago, certainly—the Northern and Southern Kanadaw continents were *united*; the Kanawdians, then, would have been driven, by necessity, to a great railroad across the continent.

April 5th.—I am almost devoured by *ennui*. Pundit is the only conversible person on board; and he, poor soul! can speak of nothing but antiquities. He has been occupied all the day in the attempt to convince me that the ancient Americans *governed themselves!*—did ever anybody hear of such an absurdity?—that they existed in a sort of every man-for-himself confederacy, after the fashion of the "prairie dogs" that we read of in fable. He says that they started with the queerest idea conceivable, viz: that all men are born free and equal—this in the very teeth of the laws of *gradation* so visibly impressed upon all things both in the moral and physical universe. Every man "voted," as they called it—that is to say meddled with public affairs—until, at length, it was discovered that what is everybody's business is nobody's, and that the "Republic" (so the absurd thing was called) was without a government at all. It is

related, however, that the first circumstance which disturbed, very particularly, the self-complacency of the philosophers who constructed this "Republic," was the startling discovery that universal suffrage gave opportunity for fraudulent schemes, by means of which any desired number of votes might at any time be polled, without the possibility of prevention or even detection, by any party which should be merely villainous enough not to be ashamed of the fraud. A little reflection upon this discovery sufficed to render evident the consequences, which were that rascality *must* predominate—in a word, that a republican government *could* never be any thing but a rascally one. While the philosophers, however, were busied in blushing at their stupidity in not having foreseen these inevitable evils, and intent upon the invention of new theories, the matter was put to an abrupt issue by a fellow of the name of *Mob,* who took every thing into his own hands and set up a despotism, in comparison with which those of the fabulous Zeros and Hellofagabaluses were respectable and delectable. This Mob (a foreigner, by the by), is said to have been the most odious of all men that ever encumbered the earth. He was a giant in stature—insolent, rapacious, filthy; had the gall of a bullock with the heart of a hyena and the brains of a peacock. He died, at length, by dint of his own energies, which exhausted him. Nevertheless, he had his uses, as every thing has, however vile, and taught mankind a lesson which to this day it is in no danger

of forgetting—never to run directly contrary to the natural analogies. As for Republicanism, no analogy could be found for it upon the face of the earth—unless we except the case of the "prairie dogs," an exception which seems to demonstrate, if any thing, that democracy is a very admirable form of government—for dogs.

April 6th.—Last night had a fine view of Alpha Lyræ, whose disk, through our captain's spy-glass, subtends an angle of half a degree, looking very much as our sun does to the naked eye on a misty day. Alpha Lyræ, although so *very* much larger than our sun, by the by, resembles him closely as regards its spots, its atmosphere, and in many other particulars. It is only within the last century, Pundit tells me, that the binary relation existing between these two orbs began even to be suspected. The evident motion of our system in the heavens was (strange to say!) referred to an orbit about a prodigious star in the centre of the galaxy. About this star, or at all events about a centre of gravity common to all the globes of the Milky Way and supposed to be near Alcyone in the Pleiades, every one of these globes was declared to be revolving, our own performing the circuit in a period of 117,000,000 of years! *We*, with our present lights, our vast telescopic improvements, and so forth, of course find it difficult to comprehend *the ground* of an idea such as this. Its first propagator was one Mudler. He was led, we must presume, to this wild hypothesis by mere analogy in the first instance; but, this being

the case, he should have at least adhered to analogy in its development. A great central orb *was,* in fact, suggested; so far Mudler was consistent. This central orb, however, dynamically, should have been greater than all its surrounding orbs taken together. The question might then have been asked—"Why do we not see it?"—*we,* especially, who occupy the mid region of the cluster—the very locality *near* which, at least, must be situated this inconceivable central sun. The astronomer, perhaps, at this point, took refuge in the suggestion of non-luminosity; and here analogy was suddenly let fall. But even admitting the central orb non-luminous, how did he manage to explain its failure to be rendered visible by the incalculable host of glorious suns glaring in all directions about it? No doubt what he finally maintained was merely a centre of gravity common to all the revolving orbs—but here again analogy must have been let fall. Our system revolves, it is true, about a common centre of gravity, but it does this in connection with and in consequence of a material sun whose mass more than counterbalances the rest of the system. The mathematical circle is a curve composed of an infinity of straight lines; but this idea of the circle—this idea of it which, in regard to all earthly geometry, we consider as merely the mathematical, in contradistinction from the practical, idea—is, in sober fact, the *practical* conception which alone we have any right to entertain in respect to those Titanic circles with which we have to deal, at least in fancy,

when we suppose our system, with its fellows, revolving about a point in the centre of the galaxy. Let the most vigorous of human imaginations but attempt to take a single step toward the comprehension of a circuit so unutterable! It would scarcely be paradoxical to say that a flash of lightning itself, travelling *forever* upon the circumference of this inconceivable circle, would still *forever* be travelling in a straight line. That the path of our sun along such a circumference —that the direction of our system in such an orbit—would, to any human perception, deviate in the slightest degree from a straight line even in a million of years, is a proposition not to be entertained; and yet these ancient astronomers were absolutely cajoled, it appears, into believing that a decisive curvature had become apparent during the brief period of their astronomical history—during the mere point—during the utter nothingness of two or three thousand years! How incomprehensible, that considerations such as this did not at once indicate to them the true state of affairs—that of the binary revolution of our sun and Alpha Lyræ around a common centre of gravity!

April 7th.—Continued last night our astronomical amusements. Had a fine view of the five Neptunian asteroids, and watched with much interest the putting up of a huge impost on a couple of lintels in the new temple at Daphnis in the moon. It was amusing to think that creatures so diminutive as the lunarians, and bearing so little resemblance to humanity, yet evinced

a mechanical ingenuity so much superior to our own. One finds it difficult, too, to conceive the vast masses which these people handle so easily, to be as light as our own reason tell us they actually are.

April 8th.—Eureka! Pundit is in his glory. A balloon from Kanadaw spoke us to-day and threw on board several late papers; they contain some exceedingly curious information relative to Kanawdian or rather Amriccan antiquities. You know, I presume, that laborers have for some months been employed in preparing the ground for a new fountain at Paradise, the Emperor's principal pleasure garden. Paradise, it appears, has been, *literally* speaking, an island time out of mind—that is to say, its northern boundary was always (as far back as any record extends) a rivulet, or rather a very narrow arm of the sea. This arm was gradually widened until it attained its present breadth—a mile. The whole length of the island is nine miles; the breadth varies materially. The entire area (so Pundit says) was, about eight hundred years ago, densely packed with houses, some of them twenty stories high: land (for some most unaccountable reason) being considered as especially precious just in this vicinity. The disastrous earthquake, however, of the year 2050, so totally uprooted and overwhelmed the town (for it was almost too large to be called a village) that the most indefatigable of our antiquarians have never yet been able to obtain from the site any sufficient data (in the shape of coins, medals or

inscriptions) wherewith to build up even the ghost of a theory concerning the manners, customs, etc., etc., etc., of the aboriginal inhabitants. Nearly all that we have hitherto known of them is, that they were a portion of the Knickerbocker tribe of savages infesting the continent at its first discovery by Recorder Riker, a knight of the Golden Fleece. They were by no means uncivilized, however, but cultivated various arts and even sciences after a fashion of their own. It is related of them that they were acute in many respects, but were oddly afflicted with monomania for building what, in the ancient Amriccan, was denominated "churches"—a kind of pagoda instituted for the worship of two idols that went by the names of Wealth and Fashion. In the end, it is said, the island became, nine tenths of it, church. The women, too, it appears, were oddly deformed by a natural protuberance of the region just below the small of the back—although, most unaccountably, this deformity was looked upon altogether in the light of a beauty. One or two pictures of these singular women have, in fact, been miraculously preserved. They look very odd, *very*—like something between a turkey-cock and a dromedary.

Well, these few details are nearly all that have descended to us respecting the ancient Knickerbockers. It seems, however, that while digging in the centre of the emperor's garden, (which, you know, covers the whole island), some of the workmen unearthed a cubical and evidently chiseled block of granite, weighing several hundred

pounds. It was in good preservation, having received, apparently, little injury from the convulsion which entombed it. On one of its surfaces was a marble slab with (only think of it!) *an inscription—a legible inscription.* Pundit is in ecstasies. Upon detaching the slab, a cavity appeared, containing a leaden box filled with various coins, a long scroll of names, several documents which appear to resemble newspapers, with other matters of intense interest to the antiquarian! There can be no doubt that all these are genuine American relics belonging to the tribe called Knickerbocker. The papers thrown on board our balloon are filled with fac-similes of the coins, MSS., typography, etc., etc. I copy for your amusement the Knickerbocker inscription on the marble slab:—

THIS CORNER STONE OF A MONUMENT TO THE
MEMORY OF
GEORGE WASHINGTON,
WAS LAID WITH APPROPRIATE CEREMONIES ON THE
19TH DAY OF OCTOBER, 1847,
THE ANNIVERSARY OF THE SURRENDER OF
LORD CORNWALLIS
TO GENERAL WASHINGTON AT YORKTOWN,
A. D. 1781,
UNDER THE AUSPICES OF THE
WASHINGTON MONUMENT ASSOCIATION OF THE
CITY OF NEW YORK.

This, as I give it, is a verbatim translation done by Pundit himself, so there *can* be no mistake about it. From the few words thus preserved, we glean several important items of knowledge, not the least interesting of which is the fact that a thousand years ago *actual* monu-

ments had fallen into disuse—as was all very proper—the people contenting themselves, as we do now, with a mere indication of the design to erect a monument at some future time; a corner-stone being cautiously laid by itself "solitary and alone" (excuse me for quoting the great Amriccan poet Benton!), as a guarantee of the magnanimous *intention.* We ascertain, too, very distinctly, from this admirable inscription, the how as well as the where and the what, of the great surrender in question. As to the *where,* it was Yorktown (wherever that was), and as to the *what,* it was General Cornwallis (no doubt some wealthy dealer in corn). *He* was surrendered. The inscription commemorates the surrender of—what?—why, "of Lord Cornwallis." The only question is what could the savages wish him surrendered for. But when we remember that these savages were undoubtedly cannibals, we are led to the conclusion that they intended him for sausage. As to the *how* of the surrender, no language can be more explicit. Lord Cornwallis was surrendered (for sausage) "under the auspices of the Washington Monument Association"—no doubt a charitable institution for the depositing of corner-stones.——But, Heaven bless me! what is the matter? Ah, I see—the balloon has collapsed, and we shall have a tumble into the sea. I have, therefore, only time enough to add that, from a hasty inspection of the facsimiles of newspapers, etc., etc., I find that *the* great men in those days among the Amriccans,

were one John, a smith, and one Zacchary, a tailor.

Good-bye, until I see you again. Whether you ever get this letter or not is point of little importance, as I write altogether for my own amusement. I shall cork the MS. up in a bottle, however, and throw it into the sea.

Yours everlastingly,

PUNDITA.

MS. FOUND IN A BOTTLE

[Published in the *Baltimore Saturday Visiter*, October 12, 1833.]

> Qui n'a plus qu'un moment à vivre
> N'a plus rien à dissimuler.
>
> *Quinault—Atys.*

Of my country and of my family I have little to say. Ill usage and length of years have driven me from the one, and estranged me from the other. Hereditary wealth afforded me an education of no common order, and a contemplative turn of mind enabled me to methodize the stores which early study diligently garnered up. Beyond all things, the works of the German moralists gave me great delight; not from my ill-advised admiration of their eloquent madness, but from the ease with which my habits of rigid thoughts enabled me to detect their falsities. I have often been reproached with the aridity of my genius; a deficiency of imagination has been imputed to me as a crime; and the Pyrrhonism of my opinions has at all times rendered me notorious. Indeed, a strong relish for physical philosophy has, I fear, tinctured my mind with a very common error of this age—I mean the habit of referring occurrences, even the least sus-

ceptible of such reference, to the principles of that science. Upon the whole, no person could be less liable than myself to be led away from the severe precincts of truth by the *ignes fatui* of superstition. I have thought proper to premise thus much, lest the incredible tale I have to tell should be considered rather the raving of a crude imagination, than the positive experience of a mind to which the reveries of fancy have been a dead letter and a nullity.

After many years spent in foreign travel, I sailed in the year 18—, from the port of Batavia, in the rich and populous island of Java, on a voyage to the Archipelago Islands. I went as passenger—having no other inducement than a kind of nervous restlessness which haunted me as a fiend.

Our vessel was a beautiful ship of about four hundred tons, copper-fastened, and built at Bombay of Malabar teak. She was freighted with cotton-wool and oil, from the Lachadive Islands. We had also on board coir, jaggeree, ghee, cocoanuts, and a few cases of opium. The stowage was clumsily done, and the vessel consequently crank.

We got under way with a mere breath of wind, and for many days stood along the eastern coast of Java, without any other incident to beguile the monotony of our course that the occasional meeting with some of the small grabs of the Archipelago to which we were bound.

One evening, leaning over the taffrail, I observed a very singular isolated cloud, to the N. W. It was remarkable, as well from its color as from

its being the first we had seen since our departure from Batavia. I watched it attentively until sunset, when it spread all at once to the eastward and westward, girting in the horizon with a narrow strip of vapor, and looking like a long line of low beach. My notice was soon afterward attracted by the dusky-red appearance of the moon, and the peculiar character of the sea. The latter was undergoing a rapid change, and the water seemed more than usually transparent. Although I could distinctly see the bottom, yet, heaving the lead, I found the ship in fifteen fathoms. The air now became intolerably hot, and was loaded with spiral exhalations similar to those arising from heated iron. As night came on, every breath of wind died away, and a more entire calm it is impossible to conceive. The flame of a candle burned upon the poop without the least perceptible motion, and a long hair, held between the finger and thumb, hung without the possibility of detecting a vibration. However, as the captain said he could perceive no indication of danger, and as we were drifting in bodily to shore, he ordered the sails to be furled, and the anchor let go. No watch was set, and the crew, consisting principally of Malays, stretched themselves deliberately upon the deck. I went below—not without a full presentiment of evil. Indeed, every appearance warranted me in apprehending a Simoon. I told the captain my fears; but he paid no attention to what I said, and left me without deigning to give a reply. My uneasiness, however, prevented me from

sleeping, and about midnight I went upon deck. As I placed my foot upon the upper step of the companion-ladder, I was startled by a loud, humming noise, like that occasioned by the rapid revolution of a mill-wheel, and before I could ascertain its meaning, I found the ship quivering to its centre. In the next instant a wilderness of foam hurled us upon our beam-ends, and rushing over us fore and aft, swept the entire decks from stem to stern.

The extreme fury of the blast proved, in a great measure, the salvation of the ship. Although completely water-logged, yet, as her masts had gone by the board, she rose, after a minute, heavily from the sea, and, staggering awhile beneath the immense pressure of the tempest, finally righted.

By what miracle I escaped destruction, it is impossible to say. Stunned by the shock of the water, I found myself, upon recovery, jammed in between the stern-post and the rudder. With great difficulty I regained my feet, and looking dizzily around, was at first struck with the idea of our being among breakers; so terrific, beyond the wildest imagination, was the whirlpool of mountainous and foaming ocean within which we were engulfed. After a while I heard the voice of an old Swede, who had shipped with us at the moment of leaving port. I hallooed to him with all my strength, and presently he came reeling aft. We soon discovered that we were the sole survivors of the accident. All on deck, with the exception of ourselves, had been swept over-

board; the captain and mates must have perished while they slept, for the cabins were deluged with water. Without assistance we could expect to do little for the security of the ship, and our exertions were at first paralyzed by the momentary expectation of going down. Our cable had, of course, parted like pack-thread, at the first breath of the hurricane, or we should have been instantaneously overwhelmed. We scudded with frightful velocity before the sea, and the water made clear breaches over us. The framework of our stern was shattered excessively, and, in almost every respect, we had received considerable injury; but to our extreme joy we found the pumps unchoked, and that we had made no great shifting of our ballast. The main fury of the blast had already blown over, and we apprehended little danger from the violence of the wind; but we looked forward to its total cessation with dismay; well believing, that in our shattered condition, we should inevitably perish in the tremendous swell which would ensue. But this very just apprehension seemed by no means likely to be soon verified. For five entire days and nights—during which our only subsistence was a small quantity of jaggeree, procured with great difficulty from the forecastle—the hulk flew at a rate defying computation, before rapidly succeeding flaws of wind, which, without equalling the first violence of the Simoon, were still more terrific than any tempest I had before encountered. Our course for the first four days was, with trifling variations, S. E. and by S.; and we

must have run down the coast of New Holland. On the fifth day the cold became extreme, although the wind had hauled round a point more to the northward. The sun arose with a sickly yellow lustre, and clambered a very few degrees above the horizon—emitting no decisive light. There were no clouds apparent, yet the wind was upon the increase, and blew with a fitful and unsteady fury. About noon, as nearly as we could guess, our attention was again arrested by the appearance of the sun. It gave out no light, properly so called, but a dull and sullen glow without reflection, as if all its rays were polarized. Just before sinking within the turgid sea, its central fires suddenly went out, as if hurriedly extinguished by some unaccountable power. It was a dim, silver-like rim, alone, as it rushed down the unfathomable ocean.

We waited in vain for the arrival of the sixth day—that day to me has not yet arrived—to the Swede never did arrive. Thenceforward we were enshrouded in pitchy darkness, so that we could not have seen an object at twenty paces from the ship. Eternal night continued to envelop us, all unrelieved by the phosphoric sea-brilliancy to which we had been accustomed in the tropics. We observed, too, that, although the tempest continued to rage with unabated violence, there was no longer to be discovered the usual appearance of surf, or foam, which had hitherto attended us. All around were horror, and thick gloom, and a black sweltering desert of ebony. Superstitious terror crept by degrees into the spirit of the old

Swede, and my own soul was wrapt in silent wonder. We neglected all care of the ship, as worse than useless, and securing ourselves as well as possible to the stump of the mizzen-mast, looked out bitterly into the world of ocean. We had no means of calculating time, nor could we form any guess of our situation. We were, however, well aware of having made farther to the southward than any previous navigators, and felt great amazement at not meeting with the usual impediments of ice. In the meantime every moment threatened to be our last—every mountainous billow hurried to overwhelm us. The swell surpassed anything I had imagined possible, and that we were not instantly buried is a miracle. My companion spoke of the lightness of our cargo, and reminded me of the excellent qualities of our ship; but I could not help feeling the utter hopelessness of hope itself, and prepared myself gloomily for that death which I thought nothing could defer beyond an hour, as, with every knot of way the ship made, the swelling of the black stupendous seas became more dismally appalling. At times we gasped for breath at an elevation beyond the albatross—at times became dizzy with the velocity of our descent into some watery hell, where the air grew stagnant, and no sound disturbed the slumbers of the kraken.

We were at the bottom of one of these abysses, when a quick scream from my companion broke fearfully upon the night. "See! see!" cried he, shrieking in my ears, "Almighty God! see! see!"

As he spoke I became aware of a dull sullen glare of red light which streamed down the sides of the vast chasm where we lay, and threw a fitful brilliancy upon our deck. Casting my eyes upwards, I beheld a spectacle which froze the current of my blood. At a terrific height directly above us, and upon the very verge of the precipitous descent, hovered a gigantic ship of perhaps four thousand tons. Although upreared upon the summit of a wave more than a hundred times her own altitude, her apparent size still exceeded that of any ship of the line or East Indiaman in existence. Her huge hull was of a deep dingy black, unrelieved by any of the customary carvings of a ship. A single row of brass cannon protruded from her open ports, and dashed from the polished surfaces the fires of innumerable battle-lanterns which swung to and fro about her rigging. But what mainly inspired us with horror and astonishment, was that she bore up under a press of sail in the very teeth of that supernatural sea, and of that ungovernable hurricane. When we first discovered her, her bows were alone to be seen, as she rose slowly from the dim and horrible gulf beyond her. For a moment of intense terror she paused upon the giddy pinnacle as if in contemplation of her own sublimity, then trembled, and tottered, and—came down.

At this instant, I know not what sudden self-possession came over my spirit. Staggering as far aft as I could, I awaited fearlessly the ruin that was to overwhelm. Our own vessel was at

length ceasing from her struggles, and sinking with her head to the sea. The shock of the descending mass struck her, consequently, in that portion of her frame which was nearly under water, and the inevitable result was to hurl me, with irresistible violence, upon the rigging of the stranger.

As I fell, the ship hove in stays, and went about; and to the confusion ensuing I attributed my escape from the notice of the crew. With little difficulty I made my way, unperceived, to the main hatchway, which was partially open, and soon found an opportunity of secreting myself in the hold. Why I did so I can hardly tell. An indefinite sense of awe, which at first sight of the navigators of the ship had taken hold of my mind, was perhaps the principle of my concealment. I was unwilling to trust myself with a race of people who had offered, to the cursory glance I had taken, so many points of vague novelty, doubt, and apprehension. I therefore thought proper to contrive a hiding-place in the hold. This I did by removing a small portion of the shifting boards, in such a manner as to afford me a convenient retreat between the huge timbers of the ship.

I had scarcely completed my work, when a footstep in the hold forced me to make use of it. A man passed by my place of concealment with a feeble and unsteady gait. I could not see his face, but had an opportunity of observing general appearance. There was about it an evidence of great age and infirmity. His

knees tottered beneath a load of years, and his entire frame quivered under the burthen. He muttered to himself, in a low broken tone, some words of a language which I could not understand, and groped in a corner among a pile of singular-looking instruments, and decayed charts of navigation. His manner was a wild mixture of the peevishness of second childhood, and the solemn dignity of a God. He at length went on deck, and I saw him no more.

* * * * * *

A feeling, for which I have no name, has taken possession of my soul—a sensation which will admit of no analysis, to which the lessons of by-gone time are inadequate, and for which I fear futurity itself will offer me no key. To a mind constituted like my own, the latter consideration is an evil. I shall never—I know that I shall never—be satisfied with regard to the nature of my conceptions. Yet it is not wonderful that these conceptions are indefinite, since they have their origin in sources so utterly novel. A new sense—a new entity is added to my soul.

* * * * * *

It is long since I first trod the deck of this terrible ship, and the rays of my destiny are, I think, gathering to a focus. Incomprehensible men! Wrapped up in meditations of a kind which I cannot divine, they pass me by unnoticed. Concealment is utter folly on my part, for the people *will not* see. It is but just

now that I passed directly before the eyes of the mate; it was no long while ago that I ventured into the captain's own private cabin, and took thence the materials with which I write, and have written. I shall from time to time continue this journal. It is true that I may not find an opportunity of transmitting it to the world, but I will not fail to make the endeavor. At the last moment I will enclose the MS. in a bottle, and cast it within the sea.

* * * * * *

An incident has occurred which has given me new room for meditation. Are such things the operation of ungoverned chance? I had ventured upon deck and thrown myself down, without attracting any notice, among a pile of ratlin-stuff and old sails, in the bottom of the yawl. While musing upon the singularity of my fate, I unwittingly daubed with a tar-brush the edges of a neatly-folded studding-sail which lay near me on a barrel. The studding-sail is now bent upon the ship, and the thoughtless touches of the brush are spread out into the word DISCOVERY.

I have made my observations lately upon the structure of the vessel. Although well armed, she is not, I think, a ship of war. Her rigging, build, and general equipment, all negative a supposition of this kind. What she *is not*, I can easily perceive; what she *is*, I fear it is impossible to say. I know not how it is, but in scrutinizing her strange model and singular cast

of spars, her huge size and overgrown suits of canvas, her severely simple bow and antiquated stern, there will occasionally flash across my mind a sensation of familiar things, and there is always mixed up with such indistinct shadows of recollection, an unaccountable memory of old foreign chronicles and ages long ago. * * *

I have been looking at the timbers of the ship. She is built of material to which I am a stranger. There is a peculiar character about the wood which strikes me as rendering it unfit for the purpose to which it has been applied. I mean its extreme *porousness,* considered independently of the worm-eaten condition which is a consequence of navigation in these seas, and apart from the rottenness attendant upon age. It will appear perhaps an observation somewhat over-curious, but this would have every characteristic of Spanish oak, if Spanish oak were distended by any unnatural means.

In reading the above sentence, a curious apothegm of an old weather-beaten Dutch navigator comes full upon my recollection. "It is as sure," he was wont to say, when any doubt was entertained of his veracity, "as sure as there is a sea where the ship itself will grow in bulk like the living body of the seaman." * * *

About an hour ago, I made bold to trust myself among a group of the crew. They paid no manner of attention, and, although I stood in the very midst of them all, seemed utterly unconscious of my presence. Like the one I

had at first seen in the hold, they all bore about them the marks of a hoary old age. Their knees trembled with infirmity; their shoulders were bent double with decrepitude; their shrivelled skins rattled in the wind; their voices were low, tremulous, and broken; their eyes glistened with the rheum of years; and their gray hairs streamed terribly in the tempest. Around them, on every part of the deck, lay scattered mathematical instruments of the most quaint and obsolete construction. * * *

I mentioned, some time ago, the bending of a studding-sail. From that period, the ship, being thrown dead off the wind, has continued her terrific course due south, with every rag of canvas packed upon her, from her truck to her lower studding-sail booms, and rolling every moment her top-gallant yard-arms into the most appalling hell of water which it can enter into the mind of man to imagine. I have just left the deck, where I find it impossible to maintain a footing, although the crew seem to experience little inconvenience. It appears to me a miracle of miracles that our enormous bulk is not swallowed up at once and forever. We are surely doomed to hover continually upon the brink of eternity, without taking a final plunge into the abyss. From billows a thousand times more stupendous than any I have ever seen, we glide away with the facility of the arrowy sea-gull; and the colossal waters rear their heads above us like demons of the deep, but like demons confined to simple threats, and

forbidden to destroy. I am led to attribute these frequent escapes to the only natural cause which can account for such effect. I must suppose the ship to be within the influence of some strong current, or impetuous under-tow. * * *

I have seen the captain face to face, and in his own cabin—but, as I expected, he paid me no attention. Although in his appearance there is, to a casual observer, nothing which might bespeak him more or less than man, still, a feeling of irrepressible reverence and awe mingled with the sensation of wonder with which I regarded him. In stature, he is nearly my own height; that is, about five feet eight inches. He is of a well-knit and compact frame of body, neither robust nor remarkable otherwise. But it is the singularity of the expression which reigns upon the face—it is the intense, the wonderful, the thrilling evidence of old age so utter, so extreme, which excites within my spirit a sense—a sentiment ineffable. His forehead, although little wrinkled, seems to bear upon it the stamp of a myriad of years. His gray hairs are records of the past, and his grayer eyes are sybils of the future. The cabin floor was thickly strewn with strange, iron-clasped folios, and mouldering instruments of science, and obsolete, long-forgotten charts. His head was bowed down upon his hands, and he pored, with a fiery, unquiet eye, over a paper which I took to be a commission, and which, at all events, bore the signature of a monarch. He

murmured to himself—as did the first seaman whom I saw in the hold—some low peevish syllables of a foreign tongue; and although the speaker was close at my elbow, his voice seemed to reach my ears from the distance of a mile. * * *

The ship and all in it are imbued with the spirit of Eld. The crew glide to and fro like the ghosts of buried centuries; their eyes have an eager and uneasy meaning; and when their fingers fall athwart my path in the wild glare of the battle-lanterns, I feel as I have never felt before, although I have been all my life a dealer in antiquities, and have imbibed the shadows of fallen columns at Balbec, and Tadmor, and Persepolis, until my very soul has become a ruin. * * *

When I look around me, I feel ashamed of my former apprehension. If I trembled at the blast which has hitherto attended us, shall I not stand aghast at a warring of wind and ocean, to convey any idea of which, the words tornado and simoon are trivial and ineffective? All in the immediate vicinity of the ship, is the blackness of eternal night, and a chaos of foamless water; but, about a league on either side of us, may be seen, indistinctly and at intervals, stupendous ramparts of ice, towering away into the desolate sky, and looking like the walls of the universe.

As I imagined, the ship proves to be in a current—if that appellation can properly be

given to a tide which, howling and shrieking by the white ice, thunders on to the southward with a velocity like the headlong dashing of a cataract. * * *

To conceive the horror of my sensations is, I presume, utterly impossible; yet a curiosity to penetrate the mysteries of these awful regions, predominates even over my despair, and will reconcile me to the most hideous aspect of death. It is evident that we are hurrying onward to some exciting knowledge—some never-to-be-imparted secret, whose attainment is destruction. Perhaps this current leads us to the southern pole itself. It must be confessed that a supposition apparently so wild has every probability in its favor. * * *

The crew pace the deck with unquiet and tremulous step; but there is upon their countenance and expression more of the eagerness of hope than of the apathy of despair.

In the meantime the wind is still in our poop, and, as we carry a crowd of canvas, the ship is at times lifted bodily from out the sea! Oh, horror upon horror!—the ice opens suddenly to the right, and to the left, and we are whirling dizzily, in immense concentric circles, round and round the borders of a gigantic amphitheatre, the summit of whose walls is lost in the darkness and the distance. But little time will be left me to ponder upon my destiny! The circles rapidly grow small—we are plunging madly within the grasp of the whirlpool—and amid a

roaring, and bellowing, and thundering of ocean and tempest, the ship is quivering—oh God! and —going down!

Note.—The "MS. Found in a Bottle," was originally published in 1831 [1833?], and it was not until many years afterward that I became acquainted with the maps of Mercator, in which the ocean is represented as rushing, by four mouths, into the (northern) Polar Gulf, to be absorbed into the bowels of the earth; the Pole itself being represented by a black rock, towering to a prodigious height.

A DESCENT INTO THE MAELSTROM

[Published in *Graham's Magazine*, May, 1841.]

The ways of God in Nature, as in Providence, are not as *our* ways; nor are the models that we frame in any way commensurate to the vastness, profundity, and unsearchableness of His works, *which have a depth in them greater than the well of Democritus.*

—*Joseph Glanville.*

WE had now reached the summit of the loftiest crag. For some minutes the old man seemed too much exhausted to speak.

"Not long ago," said he at length, "and I could have guided you on this route as well as the youngest of my sons; but, about three years past, there happened to me an event such as never happened before to mortal man—or at least such as no man ever survived to tell of—and the six hours of deadly terror which I then endured have broken me up body and soul. You suppose me a *very* old man—but I am not. It took less than a single day to change these hairs from a jetty black to white, to weaken my limbs, and to unstring my nerves, so that I tremble at the least exertion, and am frightened at a shadow. Do you know I can scarcely look over this little cliff without getting giddy?"

The "little cliff," upon whose edge he had so carelessly thrown himself down to rest that the weightier portion of his body hung over it, while he was only kept from falling by the tenure of his elbow on its extreme and slippery edge —this "little cliff" arose, a sheer unobstructed precipice of black shining rock, some fifteen or sixteen hundred feet from the world of crags beneath us. Nothing would have tempted me to be within a half dozen yards of its brink. In truth so deeply was I excited by the perilous position of my companion, that I fell at full length upon the ground, clung to the shrubs around me, and dared not even glance upward at the sky—while I struggled in vain to divest myself of the idea that the foundations of the mountain were in danger from the fury of the winds. It was long before I could reason myself into sufficient courage to sit up and look out into the distance.

"You must get over these fancies," said the guide, "for I have brought you here that you might have the best possible view of the scene of that event I mentioned—and to tell you the whole story with the spot just under your eye.

"We are now," he continued, in that particularizing manner which distinguished him—"we are now close upon the Norwegian coast—in the sixty-eighth degree of latitude—in the great province of Nordland—and in the dreary district of Lofoden. The mountain upon whose top we sit is Helseggen, the Cloudy. Now raise yourself up a little higher—hold on to the grass if

you feel giddy—so—and look out, beyond the belt of vapor beneath us, into the sea."

I looked dizzily, and beheld a wide expanse of ocean, whose waters wore so inky a hue as to bring at once to my mind the Nubian geographer's account of the *Mare Tenebrarum*. A panorama more deplorably desolate no human imagination can conceive. To the right and left, as far as the eye could reach, there lay outstretched, like ramparts of the world, lines of horridly black and beetling cliff, whose character of gloom was but the more forcibly illustrated by the surf which reared high up against it its white and ghastly crest, howling and shrieking for ever. Just opposite the promontory upon whose apex we were placed, and at a distance of some five or six miles out at sea, there was visible a small, bleak-looking island; or, more properly, its position was discernible through the wilderness of surge in which it was enveloped. About two miles nearer the land, arose another of smaller size, hideously craggy and barren, and encompassed at various intervals by a cluster of dark rocks.

The appearance of the ocean, in the space between the more distant island and the shore, had something very unusual about it. Although, at the time, so strong a gale was blowing landward that a brig in the remote offing lay to under a double-reefed trysail, and constantly plunged her whole hull out of sight, still there was here nothing like a regular swell, but only a short, quick, angry cross dashing of water in every

direction—as well in the teeth of the wind as otherwise. Of foam there was little except in the immediate vicinity of the rocks.

"The island in the distance," resumed the old man, "is called by the Norwegians Vurrgh. The one midway is Moskoe. That a mile to the northward is Ambaaren. Yonder are Islesen, Hotholm, Keildhelm, Suarven, and Buckholm. Further off—between Moskoe and Vurrgh—are Otterholm, Flimen, Sandflesen, and Stockholm. These are the true names of the places—but why it has been thought necessary to name them at all, is more than either you or I can understand. Do you hear anything? Do you see any change in the water?"

We had now been about ten minutes upon the top of Helseggen, to which we had ascended from the interior of Lofoden so that we had caught no glimpse of the sea until it had burst upon us from the summit. As the old man spoke, I became aware of a loud and gradually increasing sound, like the moaning of a vast herd of buffaloes upon an American prairie; and at the same moment I perceived that what seamen term the *chopping* character of the ocean beneath us, was rapidly changing into a current which set to the eastward. Even while I gazed, this current acquired a monstrous velocity. Each moment added to its speed—to its headlong impetuosity. In five minutes the whole sea, as far as Vurrgh, was lashed into ungovernable fury; but it was between Moskoe and the coast that the main uproar held its sway. Here the vast bed

of the waters, seamed and scarred into a thousand conflicting channels, burst suddenly into phrensied convulsion—heaving, boiling, hissing —gyrating in gigantic and innumerable vortices, and all whirling and plunging on to the eastward with a rapidity which water never elsewhere assumes, except in precipitous descents.

In a few minutes more, there came over the scene another radical alteration. The general surface grew somewhat more smooth, and the whirlpools, one by one, disappeared, while prodigious streaks of foam became apparent where none had been seen before. These streaks, at length, spreading out to a great distance, and entering into combination, took unto themselves the gyratory motion of the subsided vortices, and seemed to form the germ of another more vast. Suddenly—very suddenly—this assumed a distinct and definite existence, in a circle of more than a mile in diameter. The edge of the whirl was represented by a broad belt of gleaming spray; but no particle of this slipped into the mouth of the terrific funnel, whose interior, as far as the eye could fathom it, was a smooth, shining, and jet-black wall of water, inclined to the horizon at an angle of some forty-five degrees, speeding dizzily round and round with a swaying and sweltering motion, and sending forth to the winds an appalling voice, half shriek, half roar, such as not even the mighty cataract of Niagara ever lifts up in its agony to Heaven.

The mountain trembled to its very base, and

the rock rocked. I threw myself upon my face, and clung to the scant herbage in an excess of nervous agitation.

"This," said I at length, to the old man—"this *can* be nothing else than the great whirlpool of the Maelström."

"So it is sometimes termed," said he. "We Norwegians call it the Moskoe-ström, from the island of Moskoe in the midway."

The ordinary account of this vortex had by no means prepared me for what I saw. That of Jonas Ramus, which is perhaps the most circumstantial of any, cannot impart the faintest conception either of the magnificence, or of the horror of the scene—or of the wild bewildering sense of *the novel* which confounds the beholder. I am not sure from what point of view the writer in question surveyed it, nor at what time; but it could neither have been from the summit of Helseggen, nor during a storm. There are some passages of this description, nevertheless, which may be quoted for their details, although their effect is exceedingly feeble in conveying an impression of the spectacle.

"Between Lofoden and Moskoe," he says, "the depth of the water is between thirty-six and forty fathoms; but on the other side, toward Ver (Vurrgh) this depth decreases so as not to afford a convenient passage for a vessel, without the risk of splitting on the rocks, which happens even in the calmest weather. When it is flood, the stream runs up the country between Lofoden and Moskoe with a boisterous rapidity; but

the roar of its impetuous ebb to the sea is scarce equalled by the loudest and most dreadful cataracts; the noise being heard several leagues off, and the vortices or pits are of such an extent and depth, that if a ship comes within its attraction, it is inevitably absorbed and carried down to the bottom, and there beat to pieces against the rocks; and when the water relaxes, the fragments thereof are thrown up again. But these intervals of tranquillity are only at the turn of the ebb and flood, and in calm weather, and last but a quarter of an hour, its violence gradually returning. When the stream is most boisterous, and its fury heightened by a storm, it is dangerous to come within a Norway mile of it. Boats yachts, and ships have been carried away by not guarding against it before they were carried within its reach. It likewise happens frequently, that whales come too near the stream, and are overpowered by its violence; and then it is impossible to describe their howlings and bellowings in their fruitless struggles to disengage themselves. A bear once, attempting to swim from Lofoden to Moskoe, was caught by the stream and borne down, while he roared terribly, so as to be heard on shore. Large stocks of firs and pine trees, after being absorbed by the current, rise again broken and torn to such a degree as if bristles grew upon them. This plainly shows the bottom to consist of craggy rocks, among which they are whirled to and fro. This stream is regulated by the flux and reflux of the sea--it being constantly high and low water

every six hours. In the year 1645, early in the morning of Sexagesima Sunday, it raged with such noise and impetuosity that the very stones of the houses on the coast fell to the ground."

In regard to the depth of the water, I could not see how this could have been ascertained at all in the immediate vicinity of the vortex. The "forty fathoms" must have reference only to portions of the channel close upon the shore either of Moskoe or Lofoden. The depth in the centre of the Moskoe-ström must be unmeasurably greater: and no better proof of this fact is necessary than can be obtained from even the sidelong glance into the abyss of the whirl which may be had from the highest crag of Helseggen. Looking down from this pinnacle upon the howling Phlegethon below, I could not help smiling at the simplicity with which the honest Jonas Ramus records, as a matter difficult of belief, the anecdotes of the whales and the bears, for it appeared to me, in fact, a self-evident thing, that the largest ships of the line in existence, coming within the influence of that deadly attraction, could resist it as little as a feather the hurricane, and must disappear bodily and at once.

The attempts to account for the phenomenon —some of which I remember, seemed to me sufficiently plausible in perusal—now wore a very different and unsatisfactory aspect. The idea generally received is that this, as well as three smaller vortices among the Ferroe Islands, "have no other cause than the collision of waves rising and falling, at flux and reflux, against a

ridge of rocks and shelves, which confines the water so that it precipitates itself like a cataract; and thus the higher the flood rises, the deeper must the fall be, and the natural result of all is a whirlpool or vortex, the prodigious suction of which is sufficiently known by lesser experiments."—These are the words of the Encyclopædia Britannica. Kircher and others imagine that in the centre of the channel of the Maelström is an abyss penetrating the globe, and issuing in some very remote part—the Gulf of Bothnia being somewhat decidedly named in one instance. This opinion, idle in itself, was the one to which, as I gazed, my imagination most readily assented; and, mentioning it to the guide, I was rather surprised to hear him say that, although it was the view almost universally entertained of the subject by the Norwegians, it nevertheless was not his own. As to the former notion he confessed his inability to comprehend it; and here I agreed with him—for, however conclusive on paper, it becomes altogether unintelligible, and even absurd, amid the thunder of the abyss.

"You have had a good look at the whirl now," said the old man, "and if you will creep round this crag, so as to get in its lee, and deaden the roar of the water, I will tell you a story that will convince you I ought to know something of the Moskoe-ström."

I placed myself as desired, and he proceeded.

"Myself and my two brothers once owned a schooner-rigged smack of about seventy tons bur-

then, with which we were in the habit of fishing among the islands beyond Moskoe, nearly to Vurrgh. In all violent eddies at sea there is good fishing, at proper opportunities, if one has only the courage to attempt it; but among the whole of the Lofoden coastmen, we three were the only ones who made a regular business of going out to the islands, as I tell you. The usual grounds are a great way lower down to the southward. There fish can be got at all hours, without much risk, and therefore these places are preferred. The choice spots over here among the rocks, however, not only yield the finest variety, but in far greater abundance; so that we often got in a single day, what the more timid of the craft could not scrape together in a week. In fact, we made it a matter of desperate speculation—the risk of life standing instead of labor, and courage answering for capital.

"We kept the smack in a cove about five miles higher up the coast than this; and it was our practice, in fine weather, to take advantage of the fifteen minutes' slack to push across the main channel of the Moskoe-ström, far above the pool, and then drop down upon anchorage somewhere near Otterholm, or Sandflesen, where the eddies are not so violent as elsewhere. Here we used to remain until nearly time for slack-water again, when we weighed and made for home. We never set out upon this expedition without a steady side wind for going and coming—one that we felt sure would not fail us before our return—and we seldom made a miscalculation upon this

point. Twice, during six years, we were forced to stay all night at anchor on account of a dead calm, which is a rare thing indeed just about here; and once we had to remain on the grounds nearly a week, starving to death, owing to a gale which blew up shortly after our arrival, and made the channel too boisterous to be thought of. Upon this occasion we should have been driven out to sea in spite of every thing, (for the whirlpools threw us round and round so violently, that, at length, we fouled our anchor and dragged it) if it had not been that we drifted into one of the innumerable cross currents—here to-day and gone to-morrow—which drove us under the lee of Flimen, where, by good luck, we brought up.

"I could not tell you the twentieth part of the difficulties we encountered 'on the ground' —it is a bad spot to be in, even in good weather —but we make shift always to run the gauntlet of the Moskoe-ström itself without accident; although at times my heart has been in my mouth when we happened to be a minute or so behind or before the slack. The wind sometimes was not as strong as we thought it at starting, and then we made rather less way than we could wish, while the current rendered the smack unmanageable. My eldest brother had a son eighteen years old, and I had two stout boys of my own. These would have been of great assistance at such times, in using the sweeps as well as afterward in fishing—but, somehow, although we ran the risk ourselves, we had not the heart to let the

young ones get into the danger—for, after all said and done, it *was* a horrible danger, and that is the truth.

"It is now within a few days of three years since what I am going to tell you occurred. It was on the tenth of July, 18—, a day which the people of this part of the world will never forget—for it was one in which blew the most terrible hurricane that ever came out of the heavens. And yet all the morning and indeed until late in the afternoon, there was a gentle and steady breeze from the southwest, while the sun shone brightly, so that the oldest seaman among us could not have foreseen what was to follow.

"The three of us—my two brothers and myself—had crossed over to the islands about two o'clock P. M., and soon nearly loaded the smack with fine fish, which, we all remarked, were more plenty that day than we had ever known them. It was just seven, *by my watch,* when we weighed and started for home, so as to make the worst of the Ström at slack water, which we knew would be at eight.

"We set out with a fresh wind on our starboard quarter, and for some time spanked along at a great rate, never dreaming of danger, for indeed we saw not the slightest reason to apprehend it. All at once we were taken aback by a breeze from over Helseggen. This was most unusual—something that had never happened to us before—and I began to feel a little uneasy, without exactly knowing why. We put the boat on the wind, but could make no head-

way at all for the eddies, and I was upon the point of proposing to return to the anchorage, when, looking astern, we saw the whole horizon covered with a singular copper-covered cloud that rose with the most amazing velocity.

"In the meantime the breeze that had headed us off fell away and we were dead becalmed, drifting about in every direction. This state of things, however, did not last long enough to give us time to think about it. In less than a minute the storm was upon us—in less than two the sky was entirely overcast—and what with this and the driving spray, it became suddenly so dark that we could not see each other in the smack.

"Such a hurricane as then blew it is folly to attempt describing. The oldest seaman in Norway never experienced any thing like it. We had let our sails go by the run before it cleverly took us; but, at the first puff, both of the masts went by the board as if they had been sawed off—the mainmast taking with it the youngest brother, who had lashed himself to it for safety.

"Our boat was the lightest feather of a thing that had ever sat upon water. It had a complete flush deck, with only a small hatch near the bow, and this hatch it had always been our custom to batten down when about to cross the Ström, by way of precaution against the chopping seas. But for this circumstance we should have foundered at once—for we lay entirely buried for some moments. How my elder brother escaped destruction I cannot say, for I

never had an opportunity of ascertaining. For my part, as soon as I had let the foresail run, I threw myself flat on deck, with my feet against the narrow gunwale of the bow, and with my hands grasping a ring-bolt near the foot of the foremast. It was mere instinct that prompted me to do this—which was undoubtedly the very best thing I could have done—for I was too much flurried to think.

"For some moments we were completely deluged, as I say, and all this time I held my breath, and clung to the bolt. When I could stand it no longer I raised myself upon my knees, still keeping hold with my hands, and thus got my head clear. Presently our little boat gave herself a shake, just as a dog does in coming out of the water, and thus rid herself, in some measure, of the seas. I was now trying to get the better of the stupor that had come over me, and to collect my senses so as to see what was to be done, when I felt somebody grasp my arm. It was my elder brother, and my heart leaped for joy, for I had made sure that he was overboard—but the next moment all this joy was turned into horror—for he put his mouth close to my ear, and screamed out the word *'Moskoe-ström!'*

"No one will ever know what my feelings were at that moment. I shook from head to foot as if I had had the most violent fit of the ague. I knew what he meant by that one word well enough—I knew what he wished to make me understand. With the wind that now drove

us on, we were bound for the whirl of the Ström, and nothing could save us!

"You perceive that in crossing the Ström *channel,* we always went a long way up above the whirl, even in the calmest weather, and then had to wait and watch carefully for the slack—but now we were driving right upon the pool itself, and in such a hurricane as this! 'To be sure,' I thought, 'we shall get there just about the slack—there is some little hope in that'—but in the next moment I cursed myself for being so great a fool as to dream of hope at all. I knew very well that we were doomed, had we been ten times a ninety-gun ship.

"By this time the first fury of the tempest had spent itself, or perhaps we did not feel it so much, as we scudded before it, but at all events the seas, which at first had been kept down by the wind, and lay flat and frothing, now got up in absolute mountains. A singular change, too, had come over the heavens. Around in every direction it was still as black as pitch, but nearly overhead there burst out, all at once, a circular rift of clear sky—as clear as I ever saw—and of a deep bright blue—and through it there blazed forth the full moon with a lustre that I never before knew her to wear. She lit up every thing about us with the greatest distinctness—but, oh God, what a scene it was to light up!

"I now made one or two attempts to speak to my brother—but in some manner which I could not understand, the din had so increased

that I could not make him hear a single word, although I screamed at the top of my voice in his ear. Presently he shook his head, looking as pale as death, and held up one of his fingers, as if to say *'listen!'*

"At first I could not make out what he meant—but soon a hideous thought flashed upon me. I dragged my watch from its fob. It was not going. I glanced at its face by the moonlight, and then burst in tears as I flung it far away in the ocean. *It had run down at seven o'clock. We were behind the time of the slack, and the whirl of the Ström was in full fury!*

"When a boat is well built, properly trimmed, and not deep laden, the waves in a strong gale, when it is going large, seem always to slip from beneath her—which appears strange to a landsman—and this is what is called *riding,* in sea phrase.

"Well, so far we had ridden the swells very cleverly; but presently a gigantic sea happened to take us right under the counter, and bore us with it as it rose—up—up—as if into the sky. I would not have believed that any wave could rise so high. And then down we came with a sweep, a slide, and a plunge that made me feel sick and dizzy, as if I was falling from some lofty mountain-top in a dream. But while we were up I had thrown a quick glance around—and that one glance was all-sufficient. I saw our exact position in an instant. The Moskoe-ström whirlpool was about a quarter of a mile dead ahead—but no more like the every-day Moskoe-

ström than the whirl, as you see it, is like a mill-race. If I had not known where we were, and what we had to expect, I should not have recognized the place at all. As it was, I voluntarily closed my eyes in horror. The lids clenched themselves together as if in a spasm.

"It could not have been more than two minutes afterwards until we suddenly felt the waves subdue, and were enveloped in foam. The boat made a sharp half turn to larboard, and then shot off in its new direction like a thunderbolt. At the same moment the roaring noise of the water was completely drowned in a kind of shrill shriek—such a sound as you might imagine given out by the water-pipes of many thousand steam-vessels letting off their steam all together. We were now in the belt of surf that always surrounds the whirl; and I thought, of course, that another moment would plunge us into the abyss, down which we could only see indistinctly on account of the amazing velocity with which we were borne along. The boat did not seem to sink into the water at all, but to skim like an air-bubble upon the surface of the surge. Her starboard side was next the whirl, and on the larboard arose the world of ocean we had left. It stood like a huge writhing wall between us and the horizon.

"It may appear strange, but now, when we were in the very jaws of the gulf, I felt more composed than when we were only approaching it. Having made up my mind to hope no more, I got rid of a great deal of that terror which un-

manned me at first. I supposed it was despair that strung my nerves.

"It may look like boasting—but what I tell you is truth—I began to reflect how magnificent a thing it was to die in such a manner, and how foolish it was in me to think of so paltry a consideration as my own individual life, in view of so wonderful a manifestation of God's power. I do believe that I blushed with shame when this idea crossed my mind. After a little while I became possessed with the keenest curiosity about the whirl itself. I positively felt a *wish* to explore its depths, even at the sacrifice I was going to make; and my principal grief was that I should never be able to tell my old companions on shore about the mysteries I should see. These, no doubt, were singular fancies to occupy a man's mind in such extremity—and I have often thought since, that the revolutions of the boat going around the pool might have rendered me a little light-headed.

"There was another circumstance which tended to restore my self-possession; and this was the cessation of the wind, which could not reach us in our present situation—for, as you saw for yourself, the belt of the surf is considerably lower than the general bed of the ocean, and this latter now towered above us, a high black, mountainous ridge. If you have never been at sea in a heavy gale, you can form no idea of the confusion of mind occasioned by the wind and spray together. They blind, deafen, and strangle you, and take away all power of

action or reflection. But we were now, in a great measure, rid of these annoyances—just as death-condemned felons in prison are allowed petty indulgences, forbidden them while their doom is yet uncertain.

"How often we made the circuit of the belt it is impossible to say. We careered round and round for perhaps an hour, flying rather than floating, getting gradually more and more into the middle of the surge, and then nearer and nearer to its horrible inner edge. All this time I had never let go of the ring-bolt. My brother was at the stern, holding on to a small empty water-cask which had been securely lashed under the coop of the counter, and was the only thing on deck that had not been swept overboard when the gale first took us. As we approached the brink of the pit he let go his hold upon this and made for the ring from which, in the agony of his terror, he endeavored to force my hands, as it was not large enough to afford us both a secure grasp. I never felt deeper grief than when I saw him attempt this act—although I knew he was a madman when he did it—a raving maniac through sheer fright. I did not care, however, to contest the point with him. I knew it could make no difference whether either of us held on at all; so I let him have the bolt, and went astern to the cask. This there was no great difficulty in doing; for the smack flew round steadily enough, and upon an even keel—only swaying to and fro with the immense sweeps and swelters of the whirl.

Scarcely had I secured myself in my new position, when we gave a wild lurch to starboard, and rushed headlong into the abyss. I muttered a hurried prayer to God, and thought all was over.

"As I felt the sickening sweep of the descent, I had instinctively tightened my hold upon the barrel, and closed my eyes. For some seconds I dared not open them—while I expected instant destruction, and wondered that I was not already in my death-struggles with the water. But moment after moment elapsed. I still lived. The sense of falling had ceased; and the motion of the vessel seemed much as it had been before, while in the belt of foam, with the exception that she now lay more along. I took courage and looked once again upon the scene.

"Never shall I forget the sensation of awe, horror, and admiration with which I gazed about me. The boat appeared to be hanging, as if by magic, midway down, upon the interior surface of a funnel vast in circumference, prodigious in depth, and whose perfectly smooth sides might have been mistaken for ebony, but for the bewildering rapidity with which they spun around, and for the gleaming and ghastly radiance they shot forth, as the rays of the full moon, from that circular rift amid clouds which I have already described, streamed in a flood of golden glory along the black walls, and far away down into the inmost recesses of the abyss.

"At first I was too much confused to observe any thing accurately. The general burst of ter-

rific grandeur was all that I beheld. When I recovered myself a little, however, my gaze fell instinctively downward. In this direction I was able to obtain an unobstructed view, from the manner in which the smack hung on the inclined surface of the pool. She was quite upon an even keel—that is to say, her deck lay in a plane parallel with that of the water—but this latter sloped at an angle of more than forty-five degrees, so that we seemed to be lying upon our beam-ends. I could not help observing, nevertheless, that I had scarcely more difficulty in maintaining my hold and footing in this situation, than if we had been upon a dead level; and this, I suppose, was owing to the speed at which we revolved.

"The rays of the moon seemed to search the very bottom of the profound gulf; but still I could make out nothing distinctly on account of a thick mist in which every thing there was enveloped, and over which there hung a magnificent rainbow, like that narrow and tottering bridge which Mussulmen say is the only pathway between Time and Eternity. This mist, or spray, was no doubt occasioned by the clashing of the great walls of the funnel, as they all met together at the bottom—but the yell that went up to the Heavens from out of that mist I dare not attempt to describe.

"Our first slide into the abyss itself, from the belt of foam above, had carried us to a great distance down the slope; but our farther descent was by no means proportionate. Round and

round we swept—not with any uniform movement—but in dizzying swings and jerks, that sent us sometimes only a few hundred yards—sometimes nearly the complete circuit of the whirl. Our progress downward, at each revolution, was slow, but very perceptible.

"Looking about me upon the wide waste of liquid ebony on which we were thus borne, I perceived that our boat was not the only object in the embrace of the whirl. Both above and below us were visible fragments of vessels, large masses of building-timber and trunks of trees, with many smaller articles, such as pieces of house furniture, broken boxes, barrels and staves. I have already described the unnatural curiosity which had taken the place of my original terrors. It appeared to grow upon me as I drew nearer and nearer to my dreadful doom. I now began to watch, with a strange interest, the numerous things that floated in our company. I *must* have been delirious, for I even sought *amusement* in speculating upon the relative velocities of their several descents toward the foam below. 'This fir-tree,' I found myself at one time saying, 'will certainly be the next thing that takes the awful plunge and disappears,'—and then I was disappointed to find that the wreck of a Dutch merchant ship overtook it and went down before. At length, after making several guesses of this nature, and being deceived in all—this fact—the fact of my invariable miscalculation, set me upon a train of reflection that made my limbs

again tremble, and my heart beat heavily once more.

"It was not a new terror that thus affected me, but the dawn of a more exciting *hope*. This hope arose partly from memory, and partly from present observation. I called to mind the great variety of buoyant matter that strewed the coast of Lofoden, having been absorbed and then thrown forth by the Moskoe-ström. By far the greater number of the articles were shattered in the most extraordinary way—so chafed and roughened as to have the appearance of being stuck full of splinters—but then I distinctly recollected that there were *some* of them which were not disfigured at all. Now I could not account for this difference except by supposing that the roughened fragments were the only ones which had been *completely absorbed*—that the others had entered the whirl at so late a period of the tide, or, from some reason, had descended so slowly after entering, that they did not reach the bottom before the turn of the flood came, or the ebb, as the case might be. I conceived it possible, in either instance, that they might thus be whirled up again to the level of the ocean, without undergoing the fate of those which had been drawn in more early or absorbed more rapidly. I made, also, three important observations. The first was, that as a general rule, the larger the bodies were, the more rapid their descent—the second, that, between two masses of equal extent, the one spherical, and the other *of any other shape*, the superiority in speed of descent was

with the sphere—the third, that, between two masses of equal size, the one cylindrical, and the other of any other shape, the cylinder was absorbed the more slowly. Since my escape, I have had several conversations on this subject with an old school-master of the district; and it was from him that I learned the use of the words 'cylinder' and 'sphere.' He explained to me—although I have forgotten the explanation—how what I observed was, in fact, the natural consequence of the forms of the floating fragments—and showed me how it happened that a cylinder, swimming in a vortex, offered more resistance to its suction, and was drawn in with greater difficulty than an equally bulky body, of any form whatever.*

"There was one startling circumstance which went a great way in enforcing these observations, and rendering me anxious to turn them to account, and this was that, at every revolution, we passed something like a barrel, or else the yard or the mast of a vessel, while many of these things, which had been on our level when I first opened my eyes upon the wonders of the whirlpool, were now high up above us, and seemed to have moved but little from their original station.

"I no longer hesitated what to do. I resolved to lash myself securely to the water-cask upon which I now held, to cut it loose from the counter, and to throw myself with it into the water. I attracted my brother's attention by signs, pointed to the floating barrels that came near us,

* See Archimedes, "*De Incidentibus in Fluido.*"—lib. 2.

and did everything in my power to make him understand what I was about to do. I thought at length that he comprehended my design—but, whether this was the case or not, he shook his head despairingly, and refused to move from his station by the ring-bolt. It was impossible to reach him; the emergency admitted of no delay; and so, with a bitter struggle, I resigned him to his fate, fastened myself to the cask by means of the lashings which secured it to the counter, and precipitated myself with it into the sea, without another moment's hesitation.

"The result was precisely what I had hoped it might be. As it is myself who now tell you this tale—as you see that I *did* escape—and as you are already in possession of the mode in which this escape was effected, and must therefore anticipate all that I have farther to say—I will bring my story quickly to conclusion. It might have been an hour, or thereabout, after my quitting the smack, when, having descended to a vast distance beneath me, it made three or four wild gyrations in rapid succession, and, bearing my loved brother with it, plunged headlong, at once and forever, into the chaos of foam below. The barrel to which I was attached sank very little farther than half the distance between the bottom of the gulf and the spot at which I leaped overboard, before a great change took place in the character of the whirlpool. The slope of the sides of the vast funnel became momently less and less steep. The gyrations of the whirl grew gradually, less and less violent. By degrees, the

froth and the rainbow disappeared, and the bottom of the gulf seemed slowly to uprise. The sky was clear, the winds had gone down, and the full moon was setting radiantly in the west, when I found myself in the surface of the ocean, in full view of the shores of Lofoden, and above the spot where the pool of the Moskoe-ström *had been.* It was the hour of the slack—but the sea still heaved in mountainous waves from the effects of the hurricane. I was borne violently into the channel of the Ström, and in a few minutes, was hurried down the coast into the 'grounds' of the fishermen. A boat picked me up—exhausted from fatigue—and (now that the danger was removed) speechless from the memory of its horror. Those who drew me on board were my old mates and daily companions—but they knew me no more than they would have known a traveller from the spirit-land. My hair, which had been raven black the day before, was as white as you see it now. They say too that the whole expression of my countenance had changed. I told them my story—they did not believe it. I now tell it to *you*—and I can scarcely expect you to put more faith in it than did the merry fishermen of Lofoden."

A TALE OF THE RAGGED MOUNTAINS

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During the fall of the year 1827, while residing near Charlottesville, Virginia, I casually made the acquaintance of Mr. Augustus Bedloe. This young gentleman was remarkable in every respect, and excited in me a profound interest and curiosity. I found it impossible to comprehend him either in his moral or his physical relations. Of his family I could obtain no satisfactory account. Whence he came, I never ascertained. Even about his age—although I call him a young gentleman—there was something which perplexed me in no little degree. He certainly *seemed* young—and he made a point of speaking about his youth—yet there were moments when I should have had little trouble in imagining him a hundred years of age. But in no regard was he more peculiar than in his personal appearance. He was singularly tall and thin. He stooped much. His limbs were exceedingly long and emaciated. His forehead was broad and low. His complexion was absolutely bloodless. His

mouth was large and flexible, and his teeth were more wildly uneven, although sound, than I had ever before seen teeth in a human head. The expression of his smile, however, was by no means unpleasing, as might be supposed; but it had no variation whatever. It was one of profound melancholy—of a phaseless and unceasing gloom. His eyes were abnormally large, and round like those of a cat. The pupils, too, upon any accession or diminution of light, underwent contraction or dilation, just such as is observed in the feline tribe. In moments of excitement the orbs grew bright to a degree almost inconceivable; seeming to emit luminous rays, not of a reflected but of an intrinsic lustre, as does a candle or the sun; yet their ordinary condition was so totally vapid, filmy, and dull, as to convey the idea of the eyes of a long-interred corpse.

These peculiarities of person appeared to cause him much annoyance, and he was continually alluding to them in a sort of half explanatory, half apologetic strain, which, when I first heard it, impressed me very painfully. I soon, however, grew accustomed to it, and my uneasiness wore off. It seemed to be his design rather to insinuate than directly to assert that, physically, he had not always been what he was—that a long series of neuralgic attacks had reduced him from a condition of more than usual personal beauty, to that which I saw. For many years past he had been attended by a physician, named Templeton—an old gentleman, perhaps seventy years of age—whom he had first encoun-

tered at Saratoga, and from whose attention, while there, he either received, or fancied that he received, great benefit. The result was that Bedloe, who was wealthy, had made an arrangement with Dr. Templeton, by which the latter, in consideration of a liberal annual allowance, had consented to devote his time and medical experience exclusively to the care of the invalid.

Doctor Templeton had been a traveller in his younger days, and at Paris had become a convert, in great measure, to the doctrines of Mesmer. It was altogether by means of magnetic remedies that he had succeeded in alleviating the acute pains of his patient; and this success had very naturally inspired the latter with a certain degree of confidence in the opinions from which the remedies had been educed. The Doctor, however, like all enthusiasts, had struggled hard to make a thorough convert of his pupil, and finally so far gained his point as to induce the sufferer to submit to numerous experiments. By a frequent repetition of these, a result had arisen, which of late days has become so common as to attract little or no attention, but which, at the period of which I write, had very rarely been known in America. I mean to say, that between Doctor Templeton and Bedloe there had grown up, little by little, a very distinct and strongly marked *rapport,* or magnetic relation. I am not prepared to assert, however, that this *rapport* extended beyond the limits of the simple sleep-producing power; but this power itself had attained great intensity. At the first attempt to

induce the magnetic somnolency, the mesmerist entirely failed. In the fifth or sixth he succeeded very partially, and after long-continued effort. Only at the twelfth was the triumph complete. After this the will of the patient succumbed rapidly to that of the physician, so that, when I first became acquainted with the two, sleep was brought about almost instantaneously by the mere volition of the operator, even when the invalid was unaware of his presence. It is only now, in the year 1845, when similar miracles are witnessed daily by thousands, that I dare venture to record this apparent impossibility as a matter of serious fact.

The temperament of Bedloe was, in the highest degree sensitive, excitable, enthusiastic. His imagination was singularly vigorous and creative; and no doubt it derived additional force from the habitual use of morphine, which he swallowed in great quantity, and without which he would have found it impossible to exist. It was his practice to take a very large dose of it immediately after breakfast each morning,—or, rather, immediately after a cup of strong coffee, for he ate nothing in the forenoon,—and then set forth alone, or attended only by a dog, upon a long ramble among the chain of wild and dreary hills that lie westward and southward of Charlottesville, and are there dignified by the title of the Ragged Mountains.

Upon a dim, warm, misty day, toward the close of November, and during the strange *interregnum* of the seasons which in America is termed

the Indian summer, Mr. Bedloe departed as usual for the hills. The day passed, and still he did not return.

About eight o'clock at night, having become seriously alarmed at his protracted absence, we were about setting out in search of him, when he unexpectedly made his appearance, in health no worse than usual, and in rather more than ordinary spirits. The account which he gave of his expedition, and of the events which had detained him, was a singular one indeed.

"You will remember," said he, "that it was about nine in the morning when I left Charlottesville. I bent my steps immediately to the mountains, and, about ten, entered a gorge which was entirely new to me. I followed the windings of this pass with much interest. The scenery which presented itself on all sides, although scarcely entitled to be called grand, had about it an indescribable and to me a delicious aspect of dreary desolation. The solitude seemed absolutely virgin. I could not help believing that the green sods and the gray rocks upon which I trod had been trodden never before by the foot of a human being. So entirely secluded, and in fact inaccessible, except through a series of accidents, is the entrance of the ravine, that it is by no means impossible that I was indeed the first adventurer—the very first and sole adventurer who had ever penetrated its recesses.

"The thick and peculiar mist, or smoke, which distinguishes the Indian summer, and which now hung heavily over all objects, served, no doubt,

to deepen the vague impressions which these objects created. So dense was this pleasant fog that I could at no time see more than a dozen yards of the path before me. This path was excessively sinuous, and as the sun could not be seen, I soon lost all idea of the direction in which I journeyed. In the meantime the morphine had its customary effect—that of enduing all the external world with an intensity of interest. In the quivering of a leaf—in the hue of a blade of grass—in the shape of a trefoil—in the humming of a bee—in the gleaming of a dew-drop—in the breathing of the wind—in the faint odors that came from the forest—there came a whole universe of suggestion—a gay and motley train of rhapsodical and immethodical thought.

"Busied in this, I walked on for several hours, during which the mist deepened around me to so great an extent that at length I was reduced to an absolute groping of the way. And now an indescribable uneasiness possessed me—a species of nervous hesitation and tremor. I feared to tread, lest I should be precipitated into some abyss. I remembered, too, strange stories told about these Ragged Hills, and of the uncouth and fierce races of men who tenanted their groves and caverns. A thousand vague fancies oppressed and disconcerted me—fancies the more distressing because vague. Very suddenly my attention was arrested by the loud beating of a drum.

"My amazement was, of course, extreme. A drum in these hills was a thing unknown. I

could not have been more surprised at the sound of the trump of the Archangel. But a new and still more astounding source of interest and perplexity arose. There came a wild rattling or jingling sound, as if of a bunch of large keys, and upon the instant a dusky-visaged and half-naked man rushed past me with a shriek. He came so close to my person that I felt his hot breath upon my face. He bore in one hand an instrument composed of an assemblage of steel rings, and shook them vigorously as he ran. Scarcely had he disappeared in the mist, before, panting after him, with open mouth and glaring eyes, there darted a huge beast. I could not be mistaken in its character. It was a hyena.

"The sight of this monster rather relieved than heightened my terrors—for I now made sure that I dreamed, and endeavored to arouse myself to waking consciousness. I stepped boldly and briskly forward. I rubbed my eyes. I called aloud. I pinched my limbs. A small spring of water presented itself to my view, and here, stooping, I bathed my hands and my head and neck. This seemed to dissipate the equivocal sensations which had hitherto annoyed me. I arose, as I thought, a new man, and proceeded steadily and complacently on my unknown way.

"At length, quite overcome by exertion, and by a certain oppressive closeness of the atmosphere, I seated myself beneath a tree. Presently there came a feeble gleam of sunshine, and the shadow of the leaves of the tree fell faintly but definitely upon the grass. At this shadow I gazed

wonderingly for many minutes. Its character stupefied me with astonishment. I looked upward. The tree was a palm.

"I now arose hurriedly, and in a state of fearful agitation—for the fancy that I dreamed would serve me no longer. I saw—I felt that I had perfect command of my senses—and these senses now brought to my soul a world of novel and singular sensation. The heat became all at once intolerable. A strange odor loaded the breeze. A low, continuous murmur, like that arising from a full, but gently flowing river, came to my ears, intermingled with the peculiar hum of multitudinous human voices.

"While I listened in an extremity of astonishment which I need not attempt to describe, a strong and brief gust of wind bore off the incumbent fog as if by the wand of an enchanter.

"I found myself at the foot of a high mountain, and looking down into a vast plain, through which wound a majestic river. On the margin of this river stood an Eastern-looking city, such as we read of in the Arabian Tales, but of a character even more singular than any there described. From my position, which was far above the level of the town, I could perceive its every nook and corner, as if delineated on a map. The streets seemed innumerable, and crossed each other irregularly in all directions, but were rather long winding alleys than streets, and absolutely swarmed with inhabitants. The houses were wildly picturesque. On every hand was a wilderness of balconies, of verandas, of minarets,

of shrines, and fantastically carved oriels. Bazaars abounded; and there were displayed rich wares in infinite variety and profusion—silks, muslins, the most dazzling cutlery, the most magnificent jewels and gems. Besides these things, were seen, on all sides, banners and palanquins, litters with stately dames close-veiled, elephants gorgeously caparisoned, idols grotesquely hewn, drums, banners, and gongs, spears, silver and gilded maces. And amid the crowd, and the clamor, and the general intricacy and confusion—amid the million of black and yellow men, turbaned and robed, and of flowing beard, there roamed a countless multitude of holy filleted bulls, while vast legions of the filthy but sacred ape clambered, chattering and shrieking, about the cornices of the mosques, or clung to the minarets and oriels. From the swarming streets to the banks of the river, there descended innumerable flights of steps leading to bathing places, while the river itself seemed to force a passage with difficulty through the vast fleets of deeply burdened ships that far and wide encountered its surface. Beyond the limits of the city arose, in frequent majestic groups, the palm and the cocoa, with other gigantic and weird trees of vast age; and here and there might be seen a field of rice, the thatched hut of a peasant, a tank, a stray temple, a gypsy camp, or a solitary graceful maiden taking her way, with a pitcher upon her head, to the banks of the magnificent river.

"You will say now, of course, that I dreamed;

but not so. What I saw—what I heard—what I felt—what I thought—had about it nothing of the unmistakable idiosyncrasy of the dream. All was rigorously self-consistent. At first, doubting that I was really awake, I entered into a series of tests, which soon convinced me that I really was. Now, when one dreams, and, in the dream, suspects that he dreams, the suspicion *never fails to confirm itself,* and the sleeper is almost immediately aroused. Thus Novalis errs not in saying that ' we are near waking when we dream that we dream.' Had the vision occurred to me as I describe it, without my suspecting it as a dream, then a dream it might absolutely have been, but, occurring as it did, and suspected and tested as it was, I am forced to class it among other phenomena."

" In this I am not sure that you are wrong," observed Dr. Templeton, " but proceed. You arose and descended into the city."

" I arose," continued Bedloe, regarding the Doctor with an air of profound astonishment, " I arose, as you say, and descended into the city. On my way I fell in with an immense populace, crowding through every avenue, all in the same direction, and exhibiting in every action the wildest excitement. Very suddenly, and by some inconceivable impulse, I became intensely imbued with personal interest in what was going on. I seemed to feel that I had an important part to play, without exactly understanding what it was. Against the crowd which environed me, however, I experienced a deep sentiment of

animosity. I shrank from amid them, and, swiftly, by a circuitous path, reached and entered the city. Here all was the wildest tumult and contention. A small party of men, clad in garments half Indian, half European, and officered by gentlemen in a uniform partly British, were engaged, at great odds, with the swarming rabble of the alleys. I joined the weaker party, arming myself with the weapons of a fallen officer, and fighting I knew not whom with the nervous ferocity of despair. We were soon overpowered by numbers, and driven to seek refuge in a species of kiosk. Here we barricaded ourselves, and, for the present, were secure. From a loop-hole near the summit of the kiosk, I perceived a vast crowd, in furious agitation, surrounding and assaulting a gay palace that overhung the river. Presently, from an upper window of this palace, there descended an effeminate-looking person, by means of a string made of the turbans of his attendants. A boat was at hand, in which he escaped to the opposite bank of the river.

"And now a new object took possession of my soul. I spoke a few hurried but energetic words to my companions, and, having succeeded in gaining over a few of them to my purpose, made a frantic sally from the kiosk. We rushed amid the crowd that surrounded it. They retreated, at first, before us. They rallied, fought madly, and retreated again. In the meantime we were borne far from the kiosk, and became bewildered and entangled among the narrow streets of tall,

overhanging houses, into the recesses of which the sun had never been able to shine. The rabble pressed impetuously upon us, harassing us with their spears, and overwhelming us with flights of arrows. These latter were very remarkable, and resembled in some respects the writhing creese of the Malay. They were made to imitate the body of a creeping serpent, and were long and black, with a poisoned barb. One of them struck me upon the right temple. I reeled and fell. An instantaneous and dreadful sickness seized me. I struggled—I gasped—I died."

"You will hardly persist *now*," said I smiling, "that the whole of your adventure was not a dream. You are not prepared to maintain that you are dead?"

When I said these words, I of course expected some lively sally from Bedloe in reply; but, to my astonishment, he hesitated, trembled, became fearfully pallid, and remained silent. I looked toward Templeton. He sat erect and rigid in his chair—his teeth chattered, and his eyes were starting from their sockets. "Proceed!" he at length said hoarsely to Bedloe.

"For many minutes," continued the latter, "my sole sentiment—my sole feeling—was that of darkness and nonentity, with the consciousness of death. At length there seemed to pass a violent and sudden shock through my soul, as if of electricity. With it came the sense of elasticity and of light. This latter I felt—not saw. In an instant I seemed to rise from the ground. But I had no bodily, no visible, audible, or pal-

pable presence. The crowd had departed. The tumult had ceased. The city was in comparative repose. Beneath me lay my corpse, with the arrow in my temple, the whole head greatly swollen and disfigured. But all these things I felt—not saw. I took interest in nothing. Even the corpse seemed a matter in which I had no concern. Volition I had none, but appeared to be impelled into motion, and flitted buoyantly out of the city, retracing the circuitous path by which I had entered it. When I had attained that point of the ravine in the mountains at which I had encountered the hyena, I again experienced a shock as of a galvanic battery; the sense of weight, of volition, of substance, returned. I became my original self, and bent my steps eagerly homeward—but the past had not lost the vividness of the real—and not now, even for an instant, can I compel my understanding to regard it as a dream."

"Nor was it," said Templeton, with an air of deep solemnity, "yet it would be difficult to say how otherwise it should be termed. Let us suppose only, that the soul of the man of to-day is upon the verge of some stupendous psychal discoveries. Let us content ourselves with this supposition. For the rest I have some explanation to make. Here is a water-color drawing, which I should have shown you before, but which an unaccountable sentiment of horror has hitherto prevented me from showing."

We looked at the picture which he presented. I saw nothing in it of an extraordinary charac-

ter; but its effect upon Bedloe was prodigious. He nearly fainted as he gazed. And yet it was but a miniature portrait—a miraculously accurate one, to be sure—of his own very remarkable features. At least this was my thought as I regarded it.

"You will perceive," said Templeton, "the date of this picture—it is here, scarcely visible, in this corner—1780. In this year was the portrait taken. It is the likeness of a dead friend—a Mr. Oldeb—to whom I became much attached at Calcutta, during the administration of Warren Hastings. I was then only twenty years old. When I first saw you, Mr. Bedloe, at Saratoga, it was the miraculous similarity which existed between yourself and the painting which induced me to accost you, to seek your friendship, and to bring about those arrangements which resulted in my becoming your constant companion. In accomplishing this point, I was urged partly, and perhaps principally, by a regretful memory of the deceased, but also, in part, by an uneasy, and not altogether horror-less curiosity respecting yourself.

"In your detail of the vision which presented itself to you amid the hills, you have described, with the minutest accuracy, the Indian city of Benares, upon the Holy River. The riots, the combat, the massacre, were the actual events of the insurrection of Cheyte Sing, which took place in 1780, when Hastings was put in imminent peril of his life. The man escaping by the string of turbans was Cheyte Sing him-

self. The party in the kiosk were sepoys and British officers, headed by Hastings. Of this party I was one, and did all I could to prevent the rash and fatal sally of the officer who fell, in the crowded alleys, by the poisoned arrow of a Bengalee. That officer was my dearest friend. It was Oldeb. You will perceive by these manuscripts," (here the speaker produced a note-book in which several pages appeared to have been freshly written,) "that at the very period of which you fancied these things amid the hills, I was engaged in detailing them upon paper here at home."

In about a week after this conversation, the following paragraph appeared in a Charlottesville paper:

"We have the painful duty of announcing the death of Mr. Augustus Bedlo, a gentleman whose amiable manners and many virtues have long endeared him to the citizens of Charlottesville.

"Mr. B., for some years past, has been subject to neuralgia, which has often threatened to terminate fatally: but this can be regarded only as the mediate cause of his decease. The proximate cause was one of especial singularity. In an excursion to the Ragged Mountains, a few days since, a slight cold and fever were contracted, attended with great determination of blood to the head. To relieve this, Dr. Templeton resorted to topical bleeding. Leeches were applied to the temples. In a fearfully brief period the patient died, when it appeared

that, in the jar containing the leeches, had been introduced, by accident, one of the venomous vermicular sangsues which are now and then found in the neighboring ponds. This creature fastened itself upon a small artery in the right temple. Its close resemblance to the medicinal leech caused the mistake to be overlooked until too late.

"N. B.—The poisonous sangsue of Charlottesville may always be distinguished from the medicinal leech by its blackness, and especially by its writhing or vermicular motions, which very nearly resemble those of a snake."

I was speaking with the editor of the paper in question, upon the topic of this remarkable accident, when it occurred to me to ask how it happened that the name of the deceased had been given as Bedlo.

"I presume," said I, "you have authority for this spelling, but I have always supposed the name to be written with an *e* at the end."

"Authority?—no," he replied. "It is a mere typographical error. The name is Bedlo with an *e*, all the world over, and I never knew it to be spelt otherwise in my life."

"Then," said I mutteringly, as I turned upon my heel, "then indeed has it come to pass that one truth is stranger than any fiction—for Bedloe, without an *e*, what is it but Oldeb conversed! And this man tells me that it is a typographical error."

THE OBLONG BOX

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SOME years ago, I engaged passage from Charleston, S. C., to the city of New York, in the fine packet-ship "Independence," Captain Hardy. We were to sail on the fifteenth of the month (June), weather permitting; and on the fourteenth, I went on board to arrange some matters in my state-room.

I found that we were to have a great many passengers, including a more than usual number of ladies. On the list were several of my acquaintances; and among other names, I was rejoiced to see that of Mr. Cornelius Wyatt, a young artist, for whom I entertained feelings of warm friendship. He had been with me a fellow-student at C——— University, where we were very much together. He had the ordinary temperament of genius, and was a compound of misanthropy, sensibility, and enthusiasm. To these qualities he united the warmest and truest heart which ever beat in a human bosom.

I observed that his name was carded upon *three* state-rooms; and, upon again referring to the list of passengers, I found that he had en-

gaged passage for himself, wife, and two sisters —his own. The state-rooms were sufficiently roomy, and each had two berths, one above the other. These berths, to be sure, were so exceedingly narrow as to be insufficient for more than one person; still, I could not comprehend why there were *three* state-rooms for these four persons. I was, just at that epoch, in one of those moody frames of mind which make a man abnormally inquisitive about trifles: and I confess, with shame, that I busied myself in a variety of ill-bred and preposterous conjectures about this matter of the supernumerary state-room. It was no business of mine, to be sure; but with none the less pertinacity did I occupy myself in attempts to resolve the enigma. At last I reached a conclusion which wrought in me great wonder why I had not arrived at it before. "It is a servant, or course," I said; "what a fool I am, not sooner to have thought of so obvious a solution!" And then again I repaired to the list—but here I saw distinctly that *no* servant was to come with the party: although, in fact, it had been the original design to bring one—for the words "and servant" had been first written and then overscored. "Oh, extra baggage, to be sure," I now said to myself—"something he wishes not to be put in the hold—something to be kept under his own eye—as, I have it—a painting or so—and this is what he has been bargaining about with Nicolino, the Italian Jew." This idea satisfied me, and I dismissed my curiosity for the nonce.

Wyatt's two sisters I knew very well, and most amiable and clever girls they were. His wife he had newly married, and I had never yet seen her. He had often talked about her in my presence, however, and in his usual style of enthusiasm. He described her as of surpassing beauty, wit, and accomplishment. I was, therefore, quite anxious to make her acquaintance.

On the day in which I visited the ship (the fourteenth), Wyatt and party were also to visit it—so the captain informed me,—and I waited on board an hour longer than I had designed, in hope of being presented to the bride; but then an apology came. "Mrs. W. was a little indisposed, and would decline coming on board until to-morrow, at the hour of sailing."

The morrow having arrived, I was going from my hotel to the wharf, when Captain Hardy met me and said that, "owing to circumstances" (a stupid but convenient phrase), "he rather thought 'Independence' would not sail for a day or two, and that when all was ready, he would send up and let me know." This I thought strange, for there was a stiff southerly breeze; but as "the circumstances" were not forthcoming, although I pumped for them with much perseverance, I had nothing to do but to return home and digest my impatience at leisure.

I did not receive the expected message from the captain for nearly a week. It came at length, however, and I immediately went on board. The ship was crowded with passengers,

and every thing was in the bustle attendant upon making sail. Wyatt's party arrived in about ten minutes after myself. There were the two sisters, the bride, and the artist—the latter in one of his customary fits of moody misanthropy. I was too well used to these, however, to pay them any special attention. He did not even introduce me to his wife;—this courtesy devolving, perforce, upon his sister Marian—a very sweet and intelligent girl, who, in a few hurried words, made us acquainted.

Mrs. Wyatt had been closely veiled; and when she raised her veil, in acknowledging my bow, I confess that I was very profoundly astonished. I should have been much more so, however, had not long experience advised me not to trust, with too implicit a reliance, the enthusiastic descriptions of my friend, the artist, when indulging in comments upon the loveliness of woman. When beauty was the theme, I well knew with what facility he soared into the regions of the purely ideal.

The truth is, I could not help regarding Mrs. Wyatt as a decidedly plain-looking woman. If not positively ugly, she was not, I think, very far from it. She was dressed, however, in exquisite taste—and then I had no doubt that she had captivated my friend's heart by the more enduring graces of the intellect and soul. She said very few words, and passed at once into her state-room with Mr. W.

My old inquisitiveness now returned. There was *no* servant—*that* was a settled point. I

looked, therefore, for the extra baggage. After some delay, a cart arrived at the wharf, with an oblong pine box, which was every thing that seemed to be expected. Immediately upon its arrival we made sail, and in a short time were safely over the bar and standing out to sea.

The box in question was, as I say, oblong. It was about six feet in length by two and a half in breadth;—I observed it attentively, and like to be precise. Now this shape was *peculiar;* and no sooner had I seen it, than I took credit to myself for the accuracy of my guessing. I had reached the conclusion, it will be remembered, that the extra baggage of my friend, the artist, would prove to be pictures, or at least a picture; for I knew he had been for several weeks in conference with Nicolino:—and now here was a box, which, from its shape, *could* possibly contain nothing in the world but a copy of Leonardo's "Last Supper"; and a copy of this very "Last Supper," done by Rubini the younger, at Florence, I had known, for some time, to be in the possession of Nicolino. This point, therefore, I considered as sufficiently settled. I chuckled excessively when I thought of my acumen. It was the first time I had ever known Wyatt to keep from me any of his artistical secrets; but here he evidently intended to steal a march upon me, and smuggle a fine picture to New York, under my very nose; expecting me to know nothing of the matter. I resolved to quiz him *well,* now and hereafter.

One thing, however, annoyed me not a little.

The box did *not* go into the extra state-room. It was deposited in Wyatt's own; and there, too, it remained, occupying very nearly the whole of the floor—no doubt to the exceeding discomfort of the artist and his wife;—this the more especially as the tar or paint with which it was lettered in sprawling capitals, emitted a strong, disagreeable, and, to *my* fancy, a peculiarly disgusting odor. On the lid were painted the words:—"*Mrs. Adelaide Curtis, Albany, New York. Charge of Cornelius Wyatt, Esq. This side up. To be handled with care.*"

Now, I was aware that Mrs. Adelaide Curtis, of Albany, was the artist's wife's mother;—but then I looked upon the whole address as mystification, intended especially for myself. I made up my mind, of course, that the box and contents would never get farther north than the studio of my misanthropic friend, in Chambers Street, New York.

For the first three or four days we had fine weather, although the wind was dead ahead; having chopped round to the northward, immediately upon our losing sight of the coast. The passengers were, consequently, in high spirits and disposed to be social. I *must* except, however, Wyatt and his sisters, who behaved stiffly, and, I could not help thinking, uncourteously to the rest of the party. *Wyatt's* conduct I did not so much regard. He was gloomy, even beyond his usual habit—in fact he was *morose*—but in him I was prepared for eccentricity. For the sisters, however, I could

make no excuse. They secluded themselves in their state-rooms during the greater part of the passage, and absolutely refused, although I repeatedly urged them, to hold communication with any person on board.

Mrs. Wyatt herself was far more agreeable. That is to say, she was *chatty;* and to be chatty is no slight recommendation at sea. She became *excessively* intimate with most of the ladies; and, to my profound astonishment, evinced no equivocal disposition to coquet with the men. She amused us all very much. I say "*amused*"—and scarcely know how to explain myself. The truth is, I soon found that Mrs. W. was far oftener laughed *at* than *with*. The gentlemen said little about her; but the ladies, in a little while, pronounced her "a good-hearted thing, rather indifferent-looking, totally uneducated, and decidedly vulgar." The great wonder was, how Wyatt had been entrapped into such a match. Wealth was the general solution—but this I knew to be no solution at all; for Wyatt had told me that she neither brought him a dollar nor had any expectations from any source whatever. "He had married," he said, "for love, and for love only; and his bride was far more than worthy of his love." When I thought of these expressions, on the part of my friend, I confess that I felt indescribably puzzled. Could it be possible that he was taking leave of his senses? What else could I think? *He*, so refined, so intellectual, so fastidious, with so exquisite a perception of the faulty, and so keen an apprecia-

tion of the beautiful! To be sure, the lady seemed especially fond of *him*—particularly so in his absence—when she made herself ridiculous by frequent quotations of what had been said by her "beloved husband, Mr. Wyatt." The word "husband" seemed forever—to use one of her own delicate expressions—forever "on the tip of her tongue." In the meantime, it was observed by all on board, that he avoided *her* in the most pointed manner, and, for the most part, shut himself up alone in his state-room, where, in fact, he might have been said to live altogether, leaving his wife at full liberty to amuse herself as she thought best, in the public society of the main cabin.

My conclusion, from what I saw and heard, was, that the artist, by some unaccountable freak of fate, or perhaps in some fit of enthusiastic and fanciful passion, had been induced to unite himself with a person altogether beneath him, and that the natural result, entire and speedy disgust had ensued. I pitied him from the bottom of my heart—but could not, for that reason, quite forgive his incommunicativeness in the matter of the "Last Supper." For this I resolved to have my revenge.

One day he came upon deck, and, taking his arm as had been my wont, I sauntered with him backward and forward. His gloom, however (which I considered quite natural under the circumstances), seemed entirely unabated. He said little, and that moodily, and with evident effort. I ventured a jest or two, and he made a sickening

attempt at a smile. Poor fellow!—as I thought of *his wife,* I wondered that he could have heart to put on even the semblance of mirth. At last I ventured a home thrust. I determined to commence a series of covert insinuations, or innuendoes, about the oblong box—just to let him perceive, gradually, that I was *not* altogether the butt, or victim, of his little bit of pleasant mystification. My first observation was by way of opening a masked battery. I said something about the "peculiar shape of *that* box"; and, as I spoke the words, I smiled knowingly, winked, and touched him gently with my forefinger in the ribs.

The manner in which Wyatt received this harmless pleasantry convinced me, at once, that he was mad. At first he stared at me as if he found it impossible to comprehend the witticism of my remark; but as its point seemed slowly to make its way into his brain, his eyes, in the same proportion, seemed protruding from their sockets. Then he grew very red—then hideously pale—then, as if highly amused with what I had insinuated, he began a loud and boisterous laugh, which, to my astonishment, he kept up, with gradually increasing vigor, for ten minutes or more. In conclusion, he fell flat and heavily upon the deck. When I ran to uplift him, to all appearance he was *dead.*

I called assistance, and, with much difficulty, we brought him to himself. Upon reviving he spoke incoherently for some time. At length we bled him and put him to bed. The next morning

he was quite recovered, so far as regarded his mere bodily health. Of his mind I say nothing, of course. I avoided him during the rest of the passage, by advice of the captain, who seemed to coincide with me altogether in my views of his sanity, but cautioned me to say nothing on this head to any person on board.

Several circumstances occurred immediately after this fit of Wyatt's which contributed to heighten the curiosity with which I was already possessed. Among other things, this: I had been nervous—drank too much strong green tea, and slept ill at night—in fact, for two nights I could not be properly said to sleep at all. Now, my state-room opened into the main cabin, or dining-room, as did those of all the single men on board. Wyatt's three rooms were in the after-cabin, which was separated from the main one by a slight sliding door, never locked even at night. As we were almost constantly on a wind, and the breeze was not a little stiff, the ship heeled to leeward very considerably; and whenever her starboard side was to leeward, the sliding door between the cabins slid open, and so remained, nobody taking the trouble to get up and shut it. But my berth was in such a position, that when my own state-room door was open, as well as the sliding door in question, (and my own door was *always* open on account of the heat,) I could see into the after-cabin quite distinctly, and just at that portion of it, too, where were situated the state-rooms of Mr. Wyatt. Well, during two nights (*not* consecutive) while I lay awake, I

clearly saw Mrs. W., about eleven o'clock upon each night, steal cautiously from the state-room of Mr. W., and enter the extra room, where she remained until daybreak, when she was called by her husband and went back. That they were virtually separated was clear. They had separate apartments—no doubt in contemplation of a more permanent divorce; and here, after all, I thought was the mystery of the extra state-room.

There was another circumstance, too, which interested me much. During the two wakeful nights in question, and immediately after the disappearance of Mrs. Wyatt into the extra state-room, I was attracted by certain singular, cautious, subdued noises in that of her husband. After listening to them for some time, with thoughtful attention, I at length succeeded perfectly in translating their import. They were sounds occasioned by the artist in prying open the oblong box, by means of a chisel and mallet —the latter being apparently muffled, or deadened, by some soft woollen or cotton substance in which its head was enveloped.

In this manner I fancied I could distinguish the precise moment when he fairly disengaged the lid—also, that I could determine when he removed it altogether, and when he deposited it upon the lower berth in his room; this latter point I knew, for example, by certain slight taps which the lid made in striking against the wooden edges of the berth, as he endeavored to lay it down *very* gently—there being no room

for it on the floor. After this there was a dead stillness, and I heard nothing more upon either occasion, until nearly daybreak; unless, perhaps, I may mention a low sobbing, or murmuring sound, so very much suppressed as to be nearly inaudible—if, indeed, the whole of this latter noise were not rather produced by my own imagination. I say it seemed to *resemble* sobbing or sighing—but, of course, it could not have been either. I rather think it was a ringing in my own ears. Mr. Wyatt, no doubt, according to custom, was merely giving the rein to one of his hobbies—indulging in one of his fits of artistic enthusiasm. He had opened his oblong box, in order to feast his eyes on the pictorial treasure within. There was nothing in this, however, to make him *sob*. I repeat, therefore, that it must have been simply a freak of my own fancy, distempered by good Captain Hardy's green tea. Just before dawn, on each of the two nights, of which I speak, I distinctly heard Mr. Wyatt replace the lid upon the oblong box, and force the nails into their old places by means of the muffled mallet. Having done this, he issued from his state-room, fully dressed, and proceeded to call Mrs. W. from hers.

We had been at sea seven days, and were now off Cape Hatteras, when there came a tremendously heavy blow from the southwest. We were, in a measure, prepared for it, however, as the weather had been holding out threats for some time. Every thing was made snug, alow and aloft; and as the wind steadily freshened, we

lay to, at length, under spanker and foretopsail, both double-reefed.

In this trim we rode safely enough for forty-eight hours—the ship proving herself an excellent sea-boat in many respects, and shipping no water of any consequence. At the end of this period, however, the gale had freshened into a hurricane, and our after-sail split into ribbons, bringing us so much in the trough of the water that we shipped several prodigious seas, one immediately after the other. By this accident we lost three men overboard with the caboose, and nearly the whole of the larboard bulwarks. Scarcely had we recovered our senses, before the foretopsail went into shreds, when we got up a storm stay-sail, and with this did pretty well for some hours, the ship heading the sea much more steadily than before.

The gale still held on, however, and we saw no signs of its abating. The rigging was found to be ill-fated, and greatly strained; and on the third day of the blow, about five in the afternoon, our mizzen-mast, in a heavy lurch to windward, went by the board. For an hour or more, we tried in vain to get rid of it, on account of the prodigious rolling of the ship; and, before we had succeeded, the carpenter came aft and announced four feet water in the hold. To add to our dilemma, we found the pumps choked and nearly useless.

All was now confusion and despair—but an effort was made to lighten the ship by throwing overboard as much of her cargo as could be

reached, and by cutting away the two masts that remained. This we at last accomplished—but we were still unable to do any thing at the pumps: and, in the meantime, the leak gained on us very fast.

At sundown, the gale had sensibly diminished in violence, and, as the sea went down with it, we still entertained faint hopes of saving ourselves in the boats. At eight P. M., the clouds broke away to windward, and we had the advantage of a full moon—a piece of good fortune which served wonderfully to cheer our drooping spirits.

After incredible labor we succeeded, at length, in getting the long-boat over the side without material accident, and into this we crowded the whole of the crew and most of the passengers. This party made off immediately, and, after undergoing much suffering, finally arrived, in safety, at Ocracoke Inlet, on the third day after the wreck.

Fourteen passengers, with the captain, remained on board, resolving to trust their fortunes to the jolly-boat at the stern. We lowered it without difficulty, although it was only by a miracle that we prevented it from swamping as it touched the water. It contained, when afloat, the captain and his wife, Mr. Wyatt and party, a Mexican officer, wife, four children, and myself, with a negro valet.

We had no room, of course, for any thing except a few positively necessary instruments, some provisions, and the clothes upon our backs. No one had thought of even attempting to save any

thing more. What must have been the astonishment of all, then, when, having proceeded a few fathoms from the ship, Mr. Wyatt stood up in the stern-sheets, and coolly demanded of Captain Hardy that the boat should be put back for the purpose of taking in his oblong box!

"Sit down, Mr. Wyatt," replied the captain, somewhat sternly, "you will capsize us if you do not sit quite still. Our gunwale is almost in the water now."

"The box!" vociferated Mr. Wyatt, still standing—"the box, I say! Captain Hardy, you cannot, you *will* not refuse me. Its weight will be but a trifle—it is nothing—mere nothing. By the mother who bore you—for the love of Heaven—by your hope of salvation, I *implore* you to put back for the box!"

The captain, for a moment, seemed touched by the earnest appeal of the artist, but he regained his stern composure, and merely said:

"Mr. Wyatt, you are *mad*. I cannot listen to you. Sit down, I say, or you will swamp the boat. Stay—hold him—seize him!—he is about to spring overboard! There—I knew it—he is over!"

As the captain said this, Mr. Wyatt, in fact, sprang from the boat, and, as we were yet in the lee of the wreck, succeeded, by almost superhuman exertion, in getting hold of a rope which hung from the fore-chains. In another moment he was on board, and rushing frantically down into the cabin.

In the meantime, we had been swept astern of

the ship, and being quite out of her lee, were at the mercy of the tremendous sea which was still running. We made a determined effort to put back, but our little boat was like a feather in the breath of the tempest. We saw at a glance that the doom of the unfortunate artist was sealed.

As our distance from the wreck rapidly increased, the madman (for as such only could we regard him) was seen to emerge from the companion-way, up which by dint of strength that appeared gigantic, he dragged, bodily, the oblong box. While we gazed in the extremity of astonishment, he passed, rapidly, several turns of a three-inch rope, first around the box and then around his body. In another instant both body and box were in the sea—disappearing suddenly, at once and forever.

We lingered awhile sadly upon our oars, with our eyes riveted upon the spot. At length we pulled away. The silence remained unbroken for an hour. Finally, I hazarded a remark.

"Did you observe, captain, how suddenly they sank? Was not that an exceedingly singular thing? I confess that I entertained some feeble hope of his final deliverance, when I saw him lash himself to the box, and commit himself to the sea."

"They sank as a matter of course," replied the captain, "and that like a shot. They will soon rise again, however—*but not till the salt melts.*"

"The salt!" I ejaculated.

"Hush!" said the captain, pointing to the wife and sisters of the deceased. "We must talk of these things at some more appropriate time."

We suffered much, and made a narrow escape; but fortune befriended *us*, as well as our mates in the long-boat. We landed, in fine, more dead than alive, after four days of intense distress, upon the beach opposite Roanoke Island. We remained here a week, were not ill-treated by the wreckers, and at length obtained a passage to New York.

About a month after the loss of the "Independence," I happened to meet Captain Hardy in Broadway. Our conversation turned, naturally, upon the disaster, and especially upon the sad fate of poor Wyatt. I thus learned the following particulars.

The artist had engaged passage for himself, wife, two sisters and a servant. His wife was, indeed, as she had been represented, a most lovely, and most accomplished woman. On the morning of the fourteenth of June (the day in which I first visited the ship), the lady suddenly sickened and died. The young husband was frantic with grief—but circumstances imperatively forbade the deferring his voyage to New York. It was necessary to take to her mother the corpse of his adored wife, and, on the other hand, the universal prejudice which would prevent his doing so openly was well known. Nine-tenths of the pas-

sengers would have abandoned the ship rather than take passage with a dead body.

In this dilemma, Captain Hardy arranged that the corpse, being first partially embalmed, and packed, with a large quantity of salt, in a box of suitable dimensions, should be conveyed on board as merchandise. Nothing was to be said of the lady's decease; and, as it was well understood that Mr. Wyatt had engaged passage for his wife, it became necessary that some person should personate her during the voyage. This the deceased's lady's-maid was easily prevailed on to do. The extra state-room, originally engaged for this girl, during her mistress' life, was now merely retained. In this state-room the pseudo-wife, slept, of course, every night. In the daytime she performed, to the best of her ability, the part of her mistress—whose person, it had been carefully ascertained was unknown to any of the passengers on board.

My own mistake arose, naturally enough, through too careless, too inquisitive, and too impulsive a temperament. But of late, it is a rare thing that I sleep soundly at night. There is a countenance which haunts me, turn as I will. There is an hysterical laugh which will forever ring within my ears.